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E6-40 MALVERN

Development Plan & Programme

A Joint Project of the
Federal & Provincial Governments

Community Development
Consultants Limited

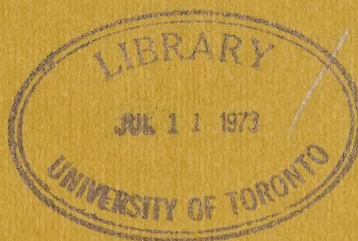


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1. Introduction

The report which follows is intended to provide a comprehensive background of the master planning approach to the Malvern project in the Borough of Scarborough, and to describe in suitable detail the effect which the planning efforts will have on the development of the lands within the project area.

Over a period of time dating from 1953, the Malvern lands were assembled by a Federal-Provincial partnership as a "land bank" to be held to accommodate future housing demands. Because of the present-day situation where housing for those of modest means has become extremely scarce, and because basic service facilities are now reaching the area, it is the intention of the partnership to develop these lands as early as possible in a manner appropriate to the situation and to Malvern's relationship with land use patterns in the Borough and Metropolitan Toronto.

Because it is one of the last sizeable land holdings within the Metro Toronto boundaries and is strategically located in the context of growth patterns in the Borough, it is timely to state the objectives established by the agencies which represent the interests of the federal and provincial governments—Central Mortgage and Housing Corporation, and the Ontario Housing Corporation. These objectives are:

- 1) To produce an exemplary piece of civic development such as is made possible by the large single land ownership,
- 2) To achieve a varied pattern of economic land uses in an integrated development combining residential, commercial, institutional, industrial and public uses,
- 3) To develop a balanced community serving as wide an economic range of households as can be accommodated in the area, consistent with the structure of the Borough of Scarborough and of Metropolitan Toronto,
- 4) To plan the community so that it can be served by efficient and economic forms of transportation,
- 5) To minimize the problems of highway and other externally-generated traffic on the community,
- 6) To maximize the advantages of existing topography and

vegetation of the site and its environs in planning suitable housing forms interrelated with recreational areas and open spaces,

- 7) To provide, as the focal point of the community, a central core of urban character integrating commercial, civic, residential, educational and recreational facilities within reach of the population concentrations,
- 8) To achieve a plan which provides for logical implementation, and which allows for the establishment of appropriate community facilities as population growth demands,
- 9) To incorporate flexibility in the programme so that changes in the regional structure may be accommodated as development progresses.

The Plan is the result of the efforts of a development planning team brought together on behalf of the Federal-Provincial partnership working in conjunction with representatives of the Borough of Scarborough and other agencies affected by the project. In particular, the efforts of Mr. D. F. Easton, Commissioner of Planning for the Borough and Mr. D. F. Willis, Deputy Commissioner are cited here, the Secondary Plan for the overall community area being largely the product of their endeavours.

The development team brought together under the direction of Community Development Consultants represents the various design and technical specialties required for a project of this scope. It is comprised of the following firms:—

Project Directors and Development Consultants:
Community Development Consultants Limited

Town and Regional Planning Consultants:
Project Planning Associates Limited

Consulting Engineering Services:
Proctor & Redfern Limited
Cole, Sherman & Associates Limited

General Surveying:

Marshall, Macklin and Monaghan

Transportation Engineering:

Barton-Aschman Associates, Inc.

Architectural Consultants:

Lee, Elken & Becksted, Architects

Sociologist:

Dr. William Michelson

Municipal Counsel:

Rohmer & Swayze, Barristers & Solicitors

The interests of the Federal-Provincial partnership have been represented by a number of officials whose contribution to the master planning of Malvern has proven of vital importance. Mention is made specifically here of the efforts of Mr. J. McCulloch, Manager - Toronto Branch, and Mr. D. V. Christenson, Urban Renewal and Public Housing Officer - Toronto Branch, who have acted on behalf of Central Mortgage and Housing Corporation. Further, the active direction and encouragement of representatives of the Ontario Housing Corporation are noted here. Mr. P. R. Goyette, Managing Director, and Mr. S. H. Dietze, Director, Land Development have been principally involved in this regard.

2. The Malvern Site

2.1 Location

The Malvern project area, comprising 1,704 acres, is situated about 12 miles north-east of downtown Toronto, in the Borough of Scarborough. The westerly boundary of the project area lies just east of Markham Road (Highway #48); the project area is bounded on the south by Highway 401, on the north by Finch Avenue, and on the east by a line just west of the Rouge River Valley.

2.2 History

Thousands of years ago the project area formed part of the shores of Lake Iroquois and was later frequented by the nomadic Indian tribes living in the region at that time. The first permanent settlers of the area were Scottish immigrant farmers who established farms in the district well over a century ago. The use of the land for farming has continued up to the present time.

2.3 Topography

The Malvern project area for the most part slopes gently downward from the north-west to the south-east. This gentle slope results in a maximum drop in elevation of approximately 100 feet between the highest and lowest points on the site.

The project area lies in a so-called “fluted till plain” land form. This land form reveals its glacial origin through the gently to moderately sloping ridges or “drumlinoids” which run diagonally, north-west to south-east. The most dominant of these ridges is centrally located and constitutes the dividing line between the two watersheds.

The land to the south-west of this main ridge is of a gently rolling nature, while the land north-east of the main ridge undulates more steeply as it approaches the edge of the Rouge River Valley, the natural barrier to urban development in an easterly direction.

One distinct drainage course runs between the westerly project boundary and Markham Road, with a link into the project area. Two other significant drainage valleys are located east of the main ridge. The most easterly of these valleys accommodates a major tributary to the Rouge River.

2.4 Soils

The soil forms within the project area and its environs consist mainly of textured shale and limestone till, derived from deposits of the Wisconsin glaciation. Three main types, all of the Woburn catena, occupy the area and are separated only by alluvial material in the stream valleys.

Milliken loam, imperfect to moderately well-drained, occupies about 70% of the project area, mainly in the north, west and south. Woburn loam, with good drainage, occupies about 20% and is concentrated in the south-east area. Lyons loam represents the poorly-drained member of the Woburn catena and covers the easterly drainage valley as well as pockets in the north-east sector of the project area. Alluvial or bottomland occupies only the two valley streams, to the west and east. No problems of erosion exists with Lyons or Milliken loam. The Woburn loam, however, due to its shale limestone parent material, is susceptible to sheet erosion and therefore must be considered in the design and development process.

2.5 Climate

The project area lies within a temperate climatic zone, and is affected by major wind movements from the north-west in winter, and from the south to south-west in the summer. Rainfall averages about 3 inches per month throughout the year.

2.6 Vegetation

Soil and climatic conditions determine the vegetation type found in any area and once established, vegetation affects soil development.

From the tendency of acid conditions in the Woburn and Milliken loams and alkaline conditions in the Lyons loam, a likely assumption would be that the original vegetation within the project area and its environs consisted of both coniferous and deciduous trees. However, most of the area is now under cultivation and therefore vegetation remains only in isolated pockets such as woodlots, wetlands and ravines. Woodlots occur only in the south-east and north-east sector of the project area, while the wetland woods coincide with the poorly-drained areas on both

sides of the main ridge. A large portion of the drainage valley on the south-west side is also occupied by secondary vegetation.

Most of the tree growth consists of Elm, Silver Maple, Ash, Cedar and Willow association. Only isolated areas, such as the high point on the major ridge, show Ironwood, Basswood, Beech and Maple.

Trees planted along the roadside are indigenous with the area vegetation. One particularly good stand of trees, planted as a shelter belt in the north-central sector, consists of Sugar Maples in their prime years. A number of roadside trees have been damaged and appear not to be in the best of condition.

2.7 Existing Land Use

Land use within the project area is for the most part of a rural nature, the greatest area of the site being under cultivation.

Substantial areas of bush and woodlands constitute the second heaviest land use in the project area. The major concentration of bush and woodlands is situated in the northern half of the site, being heaviest in the north-east sector. Secondary concentrations are to be found in the south-east sector of the site.

Residential land use within the project area is primarily concentrated along both sides of Sheppard Avenue. These dwellings are composed of both farm and non-farm types. The remaining dwelling units scattered throughout the project area are primarily farm houses.

2.7.1 Roads

The project area accommodates the following existing roads: Neilsons Road, Staines Road, Morningside Avenue, and a section of Sheppard Avenue.

Finch Avenue is situated adjacent to the northern boundary of the project area while Tapscott Road is situated adjacent to the western boundary of the project area.

2.7.2 Rail

Two railway rights-of-way, currently in use, are located within the project area. These are owned by the Canadian Pacific Railway. The major line cuts diagonally, in a north-east direction, across the north part of the project area. The trackage of this right-of-way presently includes three lines as far east as Neilsons Road. From this point, only one line continues easterly to Oshawa and points beyond. The minor line is an industrial spur branching off from the forementioned main line in a south-easterly direction. This spur serves the gravel pit workings located just east of the project area.

In addition to these two railway lines there is an abandoned railway right-of-way previously owned by the Canadian Northern Ontario Railway which is now the property of the Ontario Hydro Electric Power Commission. This right-of-way enters the project area on the western boundary just north of Sheppard Avenue, and continues in a north-easterly direction until meeting the Canadian Pacific Railway right-of-way, which it parallels through the rest of the project area.

3. Malvern and the Region

3.1 Introduction

The Malvern Project Area is located in the Borough of Scarborough in the north-east sector of Metropolitan Toronto. It is one of the last large tracts of land, in the area, under single ownership that has yet to be developed.

The new Malvern development, however, cannot be considered in isolation from its surroundings and therefore planning policies must take into consideration all relevant regional relationships. Such relationships are most significant in the fields of land use, population growth and movement, employment, transportation, and community services.

Most of the major regional aspects relevant to the Master Plan were determined prior to the preparation of the Plan. However, some aspects dealt with in this section, as yet, remain unresolved. These aspects are not considered of a nature which would preclude the realization of a Master Plan. The Master Plan has subsequently been prepared and as a result initial development will be possible at the earliest feasible time.

3.2 Land Use — Existing

Except for the original Malvern settlement at Markham Road and Sheppard Avenue, the areas to the west, north and east of the Malvern project area are, for the most part, undeveloped. The Highland Creek area to the south and west, and the Rouge River Valley to the east of the project area are endowed with water courses, significant stands of trees and dramatic topography. The Rouge River Valley, as a result, has been designated as a major public conservation area. The major existing land uses in the immediate vicinity of the Malvern project area include the Canadian Pacific Railway marshalling yards located just west of Markham Road; the Morningside residential community located immediately south of Highway 401; several quarry-oriented industries located on both sides of Sheppard Avenue, east of the project area; and a golf course located north of the project area. Two additional land uses in the general area are worthy of mention, they are: Scarborough College, located near Morningside Avenue and Ellesmere Road, and the Centennial Hospital situated $\frac{3}{4}$ of a mile south of the project area at the foot of Neilsons Road.

3.3 Land Use — Proposals in the Region

In order to assess Malvern's potential role within the Region a series of land use proposals in the form of Official Plans and Reports was assessed. A brief summary of the most relevant proposals follows:

- A. *"The Metropolitan Toronto and Region Transportation Study", (MTARTS) and the "Toronto-Centred Region"*
In December 1962, the Government of Ontario issued an Order-in-Council establishing the MTARTS Study. In June 1968, the final report was released. Volume 2 of the MTARTS Study, "Choices for a Growing Region", was a study of four alternatives (or Goals Plans) for the emerging development pattern in the Toronto-Centred Region.

Goals Plan 1 showed a lakeshore city with two closely integrated transportation corridors. In this plan Malvern was seen accommodating a population of 40,000.

Goals Plan 2 showed a modified regional lakeshore city with an added tier of urban communities along an outer transportation corridor. Malvern was envisaged as a subregional centre, with a population of approximately 108,000, situated on a high speed commuter rail line connecting Toronto to Oshawa. The centre of Malvern is shown adjacent to this rail line with an indicated residential density of approximately 60 persons per acre.

Goals Plan 3 indicated a modified regional lakeshore city with new urban communities along a separate inland transportation corridor. Malvern is shown as a subregional centre with a population of between 50,000 and 100,000 and located on the high speed commuter rail line to Port Perry.

Goals Plan 4 indicated a regional plan based on four satellite cities (Guelph, Orangeville, Alliston and Barrie). No details concerning Malvern were presented.

After the MTARTS Study was released the Government requested public and private briefs so that an acceptable regional plan could be formulated. This process overlapped the province-wide planning on a regional basis that had already begun with the announcement of Design for Development in April 1966. As a result, a Goals Planning Committee was established to evaluate the incoming briefs



and alternative Goals Plans set out in the MTARTS report.

In October 1969, the MTARTS Study area was enlarged and designated the Toronto-Centred Region. *The Toronto-Centred Region Study* is more oriented to regional planning than was the MTARTS Study which was primarily intended for the purposes of transportation planning.

While the Toronto-Centred Region Plan was not available for study during the preparation of the Malvern development plan, it would seem that the Malvern development, insofar as is relevant, complements the aims and plans of that study. Malvern represents an initial concentration of population in the eastern sector of Scarborough and therefore reinforces the aim of the Toronto-Centred Region Plan to stimulate a higher growth rate in the eastern corridor. (Metro Toronto - Bowmanville).

Further, the Toronto-Centred Region Plan report recognized that metropolitan growth is unfortunately "suburbanizing" predominantly westward in a pattern that contains aspects of unstructured sprawl. In addition it states that "quantities of land are being removed prematurely from agricultural and recreational use both for low density residential purposes and for speculation".

The Malvern development plan has attempted to overcome such problems by proposing a unified, highly-structured environmental form that is easily identified as a separate entity within the metropolitan urban structure. The Malvern project, therefore, being located in a highly urbanized milieu, has been planned at densities which reflect its position within this milieu.

B. *The Scarborough Official Plan*

The Borough of Scarborough Official Plan presently designates the project area north of Sheppard Avenue as "Malvern East". Early indications suggested that this community would accommodate 24,100 persons at a gross residential density of approximately 20 persons per acre.

Amendment No. 146 to the Scarborough Official Plan constitutes a "Secondary Plan" for the Neilson Industrial District. This plan indicates a "High Performance Industrial"

area located about midway between Highway 401 and Sheppard Avenue. The remaining land between the industrial district and Sheppard Avenue is designated for two residential neighbourhoods.

C. *The Proposed Metropolitan Toronto Official Plan*

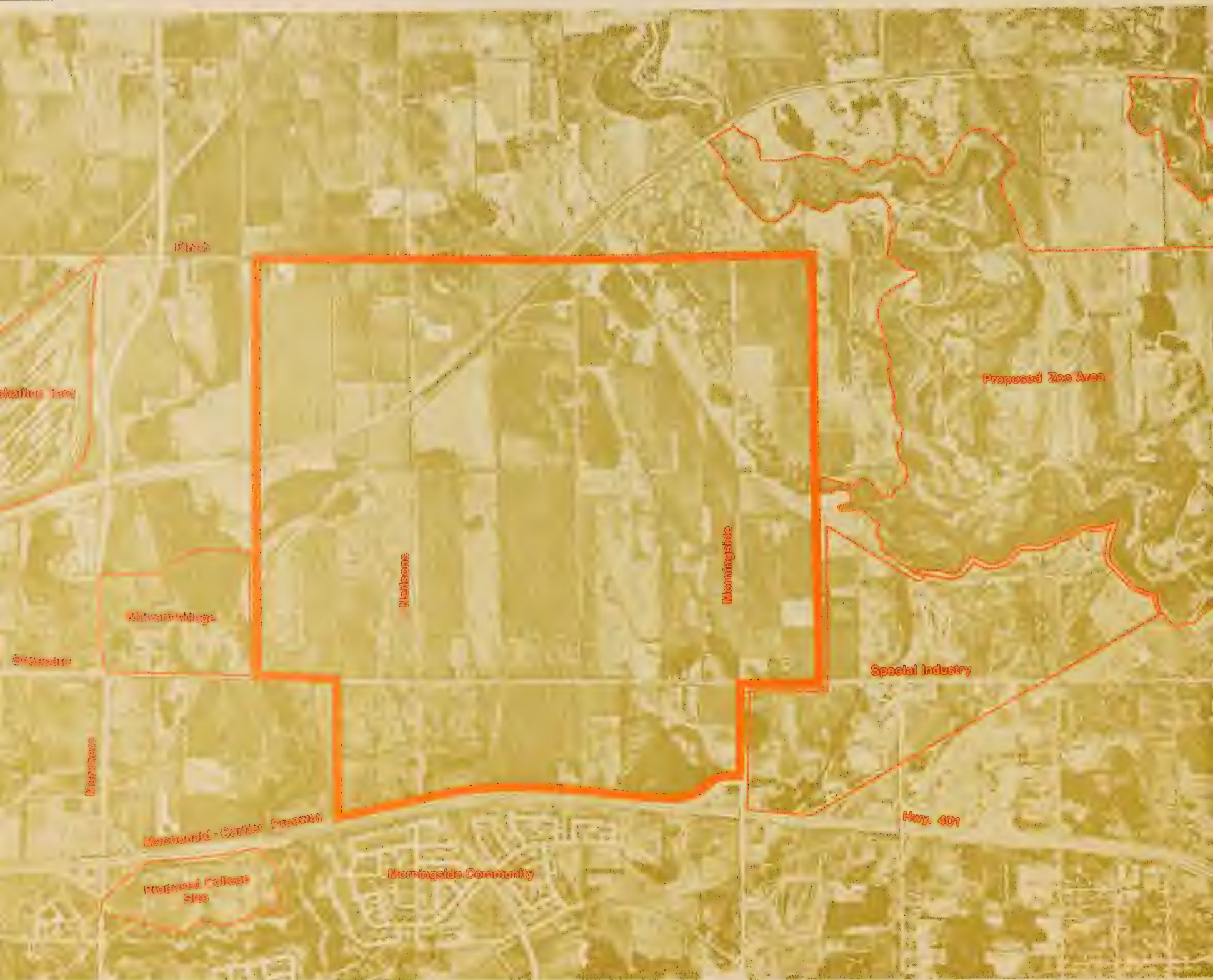
The proposed Metropolitan Toronto Official Plan differs somewhat from the Scarborough Official Plan in its designation of industrial land uses. The areas affected are the lands between Sheppard Avenue and Highway 401, the lands to the north-east of the Canadian Pacific Railway spur line parallel to Morningside Avenue, and the lands between the Canadian Pacific Railway main line tracks and Finch Avenue.

D. *Other Land Use Proposals*

Two specific land use proposals, announced recently, affect planning in the Malvern area.

Firstly, plans have been initiated for the development of new zoological gardens to be situated in the Rouge River Valley, south of Finch Avenue and east of the Malvern project area. This zoo will serve as a major recreational facility for both Metropolitan Toronto and the region beyond. This facility will undoubtedly stimulate additional development in the Rouge River area and such activity will in turn affect the programme for major trunk services and arterial roads. It is not expected, however, that road facilities proposed to serve the Malvern project area will be adversely affected by the zoo complex, as additional facilities to serve the zoo are being planned.

Secondly, a new site for the Centennial College of Applied Arts and Technology has been acquired just south of the Malvern project area. This site is located just east of Markham Road and south of Highway 401. This proposed community college would provide students in the region with increased higher learning facilities and would help to attract additional commercial-industrial development to the general area. The strategic location of the proposed college would also provide an opportunity for increased discourse between the community and industry in the region.



3.4 Employment

The Malvern project area is virtually surrounded by existing or proposed industrial uses. Ultimate development of these uses within the near future seems certain in light of their strategic position within Metro and their proximity to the major transportation corridors serving Metro and the Region. The development of such industries will in turn generate significant employment opportunities for the local population, including Malvern.

However, the Malvern population being an integral part of the metropolitan population, will also find employment opportunities throughout the whole of the metro area. A major source of employment of course will be in the Toronto central business district. Additional employment centres of significance will also be found along Highway 401 at distances of from 5 miles to 30 miles to the west; at the proposed Scarborough Town Centre; and within the Malvern Central Area itself.

3.5 Population Growth and Movement

The Malvern project area lies between an existing built-up area and the only undeveloped corner of Metropolitan Toronto, the so-called "North-East Sector". The present population of Metropolitan Toronto is approximately 2,000,000. This is projected to reach 3,100,000 by the year 2000.

Existing development trends, as outlined in the Toronto-Centred Region report, indicate that urban "growth is suburbanizing into patterns with aspects of unstructured sprawl, with considerable intensity along the major transportation axes, and infilling of low density sprawl between these axes. Sprawl tends to be westward, toward the south-western part of the Province". Further, "the peripheral areas are growing at a very modest pace in the eastern, north-eastern and northern segments of the peripheral area around Metro Toronto".

One of the objectives stated in the Toronto-Centred Region report is to therefore stimulate the development of the eastern urban corridor, from Metropolitan Toronto to Bowmanville.

Such urban growth, it is suggested, should take the form of recognizable communities situated within a workable urban hierarchy. The design of each of the urban centres should attempt to link their separate central business districts and high density housing to the regional transportation system.

Malvern represents one of the first of these communities and the objectives as stated above were inherent in its planning.

In light of the vigorous population growth, housing demand, and regional development policies, all new communities, including Malvern, should be developed so as to obtain the maximum benefits both in terms of economic and environmental benefits. To do so, these communities must accommodate a full spectrum of housing types and a corresponding higher population density figure, which will, of course, be greater than densities presently realized in typical low density housing developments so prevalent in today's suburban sprawl growth pattern.

In the planning of Malvern, an attempt was made to achieve a reasonable balance in the mix of housing types. As the development progresses it may be found desirable to alter the original housing mix so as to allow for increased densities. Therefore, flexibility has been an integral consideration in the planning process and the effecting of such a change in densities, within limits, is considered feasible within the proposed planning framework.

3.6 Transportation

The Malvern project area is strategically located with respect to major existing and proposed transportation corridors serving the region.

3.6.1 Roadways

Highway 401 is one of the most significant of these corridors, and certainly the most important road facility serving the Malvern project area. Present plans provide for the widening of Highway 401 from its present width to a modified 12-lane facility initially as far east as Neilsons Road, and eventually to the Oshawa Area.

Further expressway plans in the region envisage the extension of the Gardiner Expressway to the east, with this section being known as the Scarborough Expressway; the construction of Highway 407 located in the vicinity of Highway 7, north of the project area; and consideration, by the Department of Highways, of the feasibility of constructing a new highway connection between Highways 401 and 407 in the vicinity of the Scarborough-Pickering Townline. Markham Road (Highway #48) is situated just west of the project area. This north-south oriented roadway connects the site to the Metro road network and to the region north of the site.

As mentioned earlier in this section, there are several matters, primarily concerned with transportation facilities, that have not yet been completely resolved. These have not precluded progress on the detailed planning for first phase development of the Malvern project but they are worthy of mention at this point.

A. *Interchange at Highway 401 and Neilsons Road*

A firm date has yet to be established by the Department of Highways for construction of this interchange. As pointed out in earlier reports, the interchange between Highway 401 and Neilsons Road is required so as to adequately serve the Malvern community and lands to the north. The traffic-carrying capacity of the proposed Malvern road system has been based to a large degree on the future availability of this interchange.

B. *Morningside Avenue Alignment*

No official decision has yet been made on the final alignment of Morningside Avenue & Finch Avenue. Any change in their alignments from those proposed in the Malvern Master Plan will naturally affect land use disposition. Such changes in land use would primarily affect the areas immediately adjacent to Morningside Avenue and could possibly include land uses in tertiary areas as well.

The alignments as proposed in this report respect the topography and open space characteristics of the site, provide for the realization of three balanced neighbourhoods

east of the proposed Morningside alignment, and follow the most desirable approach of Finch Avenue to the proposed zoo site.

3.6.2 Rail Facilities

Two railway rights-of-way of some significance are presently accommodated within the Malvern project area.

The major facility is the Canadian Pacific Railway trackage which crosses the north-west sector of the project area, diagonally from south-west to north-east. This line is a high-volume service linking downtown Toronto to Montreal and points further east.

The second right-of-way is an abandoned railway property presently owned by the Ontario Hydro Electric Power Commission. This right-of-way joins the forementioned Canadian Pacific Railway line at a point midway through the project area. Conceptual plans prepared by the Toronto Transportation Commission already recommend a transit service along this right-of-way between the Bloor-Danforth subway station at Warden Avenue and the Malvern project area.

Although no definite decisions have been made regarding regional transit facilities through the Malvern community, present proposals for a high-capacity transportation system serving north-eastern Metro appear optimistic. Recommendation contained in the Provincial Government's recently published "The Toronto-Centred Region" report, reinforce the possibility of such a transportation system being realized in the future. If the decision is made to proceed with such a system, the two existing rail rights-of-way within the Malvern project area would provide alternative alignment possibilities.

4. The Main Aims of Malvern

The major objectives to be realized in the Malvern development are as follows:

4.1 Urban Character - Unity - Identity

One of the principal objectives of the Malvern Plan is to create a unified, imaginative, balanced and attractive urban environment so as to improve the quality of life for every resident. Malvern should be an urban entity within the greater Metropolitan Toronto structure, possessing a strong sense of identity for its inhabitants.

Malvern should have a coherent, easily understood structure and direction. It should be compact and offer a full range of housing types without sacrificing high physical and social standards. At the same time it should take full advantage of its situation as a large project area under single ownership.

Being an entity within the greater Toronto urban area it must reflect this urban character in both its buildings and open spaces and the relationship between them.

The establishment of these objectives has led to the concept of a strong Central Area structured to the needs of the Malvern population. This Central Area should represent the focal point of Malvern's social, business and cultural life. The residential "neighbourhood" areas around the "core" will peak in density, height and concentration of building around the community "core". As these neighbourhoods radiate outward away from the "core", densities will decrease.

Each "neighbourhood" should be focused on its own centre of recreational, educational and social activity while at the same time retaining a direct and strong connection with the "core" area and to each adjoining "neighbourhood" unit.

Such an urban framework will assist the Malvern community in becoming an "entity" and at the same time provide the different types of housing and environment required to meet the wishes and needs of the Malvern population.

4.2 Vehicular Traffic

Malvern should be designed so as to facilitate the incorporation of transportation corridors, existing and proposed, that will efficiently and economically serve the future population. The design should also minimize any potential problems, created by external traffic, for the Malvern community.

Malvern must be designed to accommodate the projected demands of vehicle ownership and car usage. It should be capable of absorbing a minimum of one car per household together with visitors' parking facilities. Projected peak parking facilities must also be provided for within the central "core" area.

Vehicular-pedestrian separation must be a prime objective in Malvern. A major walkway system throughout the community must possess a reasonable minimum of vehicular confrontations. In the "neighbourhood" units such vehicular-pedestrian separation will be horizontal, but between the neighbourhoods and the central "core" area itself, such separation will, to a large degree, be vertical, i.e. pedestrian underpasses or overpasses and structured parking.

4.3 Open Space and Malvern

The Malvern plan must optimize the existing open space and topographical characteristics of the project area and its environs.

The Highland Creek and Rouge River open space systems bordering the west and east sides of the project area respectively, together with a landscaped connection between them, passing through the project area, must be carefully considered in the planning and design process.

A continuous open space-pedestrian system should interconnect all major land uses in Malvern. Within this system would be located the full range of recreational-park open spaces.

Building types will, where feasible, be intimately related to topography and vegetation. Vegetation of merit should, in all instances where possible, be retained.



EXISTING LAND USE AND DEVELOPMENT CONSTRAINTS



Existing Buildings



Existing Vegetation



Orchard



Major Noise Belt



Minor Noise Belt



Ravine System



4.4 Population Balance

Every effort should be made to achieve a balanced population with respect to age, income, family structure and employment, so that "second generation" problems may be minimized.

The problems created by an unbalance of these characteristics result primarily from the concentration of the social needs of a narrow age group (0-30 years) as it progresses through the various stages of the complete age cycle. (See Section 5)

To help overcome the problem of unbalance, all attempts must be made to achieve a comprehensive age mix, together with the provision of the social facilities for such an age mix, early in the development of Malvern.

4.5 Implementation

The planning of Malvern must allow for a logical sequence of implementation. Such a sequence will be determined by a number of factors:

- the availability and capacity of existing major services related to the project area and the staging of future major services, including educational and social facilities; and
- the rate of building construction, which will reflect housing demand and availability of mortgage funds.

The plan must also provide for flexibility in the future development of Malvern. Such flexibility will allow Malvern to grow within a logical framework in such a manner that it is at all times "in tune" with an ever-changing society and its needs and wishes.

5. Population and Housing Characteristics

5.1 The Importance of a Balanced Population Structure

It is widely recognized that many of the problems facing completely new communities are directly attributable to the unbalanced age and household structure of their population. In most new communities the majority of the households (approximately two-thirds) is headed by a married couple in their twenties or thirties, whereas in well-established communities such households form a much smaller proportion of the whole (usually less than 25%). New communities on the scale of Malvern usually provide housing for the “young married” who are having difficulties in finding houses on the general market either because of scarcity or high cost. Families in the middle age groups, however, have, because of their more lengthy settlement period, become more fixed in their home, work and social habits. The children of such families are, in addition, probably nearing a crucial stage in their education. As a result of these factors this type of family does not migrate to new communities as quickly as do the young marrieds.

5.2 The Problem of an Unbalanced Population Structure

The difficulties that arise from a lack of balance in the age structure of a new community occur as a result of the community being composed predominantly of those aged from 0-5 years and 20-30 years. The social needs required by these age groups will unfortunately peak at various times throughout the whole age cycle.

First an urgent need arises for elementary schools and initial home building, and this is followed by a secondary school “bulge” and then the “teenage” problem. Finally, as the parents grow old an immediate need for, and rapid expansion of, social facilities for this age group is required.

It has been demonstrated in the study of new towns and new communities that unless wholesale migration takes place initially, it might require several generations to overcome the initial unbalance of population. Therefore the utmost effort must be made to attract a more balanced initial population composition, and plans formulated that will accommodate the social needs of the future immigrant population.

5.3 Proposals for a Greater Initial Population Balance

If it were economically and socially possible to build a new town or community over a period of 30 years then the resulting population structure would be fairly balanced. However, the construction of most new communities is generally staged over about a 10-year period. Because of this timing, therefore, several methods should be utilized in order to develop a more balanced initial population.

The provision of various housing types and their corresponding rental or sales cost is, of course, one basic method of influencing the age of those that will live in the community.

A second determinant of some significance is the degree to which industry and office facilities can be attracted to the immediate area of the new community. It has been experienced that these uses increase the numbers of middle-aged persons without children in a new community. These factors were considered in the initial stages of the planning process for the Malvern project.

5.4 Breakdown of Housing Types

Together with the forementioned factors, the projections of housing demand for the area, as related to family growth trends in the Borough and in Metropolitan Toronto as a whole, were considered in the determination of the proposed housing mix for the Malvern Community. These considerations were coupled with efforts to ensure that persons at various stages of the life cycle and with a wide range of socio-economic characteristics would have the opportunity of living in Malvern.

In addition, it has been necessary to relate the housing proportions projected to the standards for community planning established in the Borough of Scarborough. This has implied a relationship of ownership-type to rental-type units, in the usual sense of these terms, in proportions considered compatible with the Borough’s policies in this regard.

TABLE 1

DISTRIBUTION OF DWELLING UNITS BY TYPE

Single Detached Houses	25%
Semi-Detached Houses	12.5%
Street Town Houses	12.5%
Cluster Town Housing	15%
Terrace Housing	15%
Apartment Buildings	20%

By way of explanation, the various housing types referred to have been established on a scale of increasing density per net acre and, to some degree, with decreasing numbers of bedrooms per dwelling unit. The following is a brief description for general information purposes regarding these housing types.

Single-Family Detached Houses: These are self-contained houses on individual lots, and are normally of 3, 4 or 5-bedroom arrangements. They may be of a bungalow, split-level or two-storey design. In virtually all cases they will be owned by the occupant.

Semi-Detached Houses: These structures have been traditionally two-storeys in height with a vertical party wall dividing two dwelling units, and with the occupant owning half the structure and half the lot on which it is located. More recently, units of this type have been built on a single-storey arrangement with the party wall occurring within a garage structure. The houses normally contain 3 or 4 bedrooms.

Street Town Houses: These units are arranged in short rows and are usually two storeys in height, with vertical division from adjacent houses on either side by party walls. The houses have individual frontage on, and service from, a dedicated public road. They are normally of a 3 or 4-bedroom size.

Cluster Town Housing: This type of housing is similar to street town housing except that the units do not have frontage on a public street, and therefore allow more siting possibilities on the land. Because of this, they share certain facilities such as parking structures and open space areas. Groups of housing of this nature are either owned by the

developer and rented to families or, alternatively, they may be developed on a condominium basis with occupants owning each unit and a share of the public facilities. The unit design usually provides 3 and 4-bedroom accommodation.

Terrace Housing: This category implies groups of structures 3 or 4 storeys in height which, in effect, contain "stacked" town housing with one unit above another, as well as on each side. Access is arranged by vertical stairways or horizontal corridors. They are normally developed for rental purposes, and are usually of a 2 and 3-bedroom character.

Apartment Buildings: These high-rise buildings with elevator service contain units designed for small families and single persons. They are expected to be restricted to 1 and 2-bedroom units and are likely to be developed for rental purposes.

It is suggested that any of these six housing types could be constructed for ownership purposes under the existing condominium legislation. The form in which these are ultimately developed will depend to a large extent on marketing and financing conditions in effect at the time that the lands are ready for development. Further, the development of the housing types will be affected by such policies of the government as may be operative at that particular time.

It is contemplated that public housing units will comprise a maximum of 5% of the total number of units within the project, and that no neighbourhood will contain more than 10% of its units in this type of housing. Each of the neighbourhoods would have a probable range of 50 to 150 units of public housing which would allow for a relatively easy integration of this housing type into the fabric of the neighbourhood. It is also planned that there would be approximately 600 residential units for senior citizens within the Malvern community. These are indicated as rental apartment units located close to the Central Area where they could take advantage of recreational, communal, shopping and transportation facilities.

Of considerable importance to the master planning for Malvern is the intent to provide, within the project, housing for a wide range of incomes. This implies that areas be

provided for those with higher-than-average incomes as well as those with smaller incomes. It is the intention of the owners here that the various opportunities for housing development available through the Ontario Housing Corporation's Home Ownership Made Easy (H.O.M.E.) programme and the National Housing Act of the Federal Government, be implemented to a high degree.

The following table gives the distribution of housing types planned within the neighbourhoods in the project. It is stressed that the table applies only to the lands within the government holding. Additional units are, of course, projected for those portions of neighbourhoods which are located on privately-owned lands outside the holding. The distribution of dwelling units by type is projected as being in the same proportions, on an overall basis, for the total Malvern community as within the project. This would mean

an additional 4,000 units located on the private lands, giving a total of 15,400 units in the total community.

Based on the total number of housing units projected in the lands within the proposed development plan, and utilizing factors for the generation of population from the different housing types applicable in the Borough of Scarborough, a ratio of 32 persons per acre of gross residential land was reached. This figure is well within the capacities of the various trunk systems serving the Malvern area.

A significant factor which influences the planning for communal facilities is the proportion of the family-type housing units to non-family type units to be built within the community. The units, appropriate for families with children, will constitute some 80% of the housing, with the balance intended for single persons or two-person families.

TABLE 2
DISTRIBUTION OF DWELLING UNIT TYPES BY NEIGHBOURHOOD
(WITHIN GOVERNMENT LANDS)

Dwelling Unit Type	Neighbourhood Numbers												Total	%
	1	2	3*	4*	5*	6	7*	8	9	10	11*	12		
Single Detached Houses	450	375	65	—	130	255	138	355	375	375	131	210	2,859	25
Semi-Detached Houses	225	188	32	—	65	128	69	178	188	188	66	105	1,432	13
Street Town Houses	225	187	33	—	65	127	69	177	187	187	65	105	1,427	12
Sub-total	900	750	130	—	260	510	276	710	750	750	262	420	5,718	50
Cluster Town Housing	95	110	230	180	130	275	—	150	70	180	—	295	1,715	15
Terrace Housing	95	110	230	180	130	275	—	150	70	180	—	295	1,715	15
Sub-total	190	220	460	360	260	550	—	300	140	360	—	590	3,430	30
Apartment Buildings	265	510	—	—	—	—	—	430	1,070	—	—	—	2,275	20
Grand Total	1,355	1,480	590	360	520	1,060	276	1,440	1,960	1,110	262	1,010	11,423	100

* Note: Only part of these neighbourhoods are within the Malvern project.

6. The Planning Concept

6.1 General

The Master Plan for Malvern incorporates the main aims as described in Section 4. These aims together with the potentialities and limitations of the site were first expressed in the form of a “Concept” or “Idea” plan.

The scope of the concept includes an area greater than the project area itself. The Scarborough Secondary Plan and the Malvern concept were, understandably, developed simultaneously within this greater area. In effect, the Borough Planning Department included within the Malvern Community the whole area between Markham Road and the Rouge Valley and from Highway 401 north to Finch Avenue. The Scarborough Secondary Plan and the proposed Malvern Master Plan have been resolved except for the final decisions yet to be made concerning the alignment of Finch and Morningside Avenues.

The Malvern concept evolved, as mentioned previously, from a series of studies concerning the physical, social and economic objectives and an evaluation of site limitations and capabilities. Also, the concept was strongly influenced by existing transportation corridors inside and adjacent to the project area and by the topography and associated landscape in the general area.

Plate No. 4 illustrates the overall concept and emphasizes those major elements which have formed the basis for the conceptual development pattern.

First and foremost, the total Malvern Community was defined by very definite boundaries which largely excluded the possibility of future community expansion areawise. These physical boundaries — Highway 401, Highway 48, Finch Avenue and the Rouge River Valley — enabled Malvern to be considered as a separate, identifiable urban entity in itself, yet intimately related to the Metropolitan Toronto structure.

6.2 The Central Area

In its context as an identifiable future urban entity Malvern has been planned as a community with its own strong Central Area serving its primary social, recreational, cultural and business needs. The location of this centre was influenced by a number of factors:

Firstly, it should be as central as possible, geographically speaking, to the total Malvern Community population which it is primarily meant to serve;

Secondly, it should be strongly oriented to major road and rail transportation corridors;

Thirdly, its siting should be intimately connected with the major open space system;

Fourthly, its location should be visually significant as seen from the community around; and

Fifthly, the location of the Central Area should allow for servicing by major trunk facilities of that part of the Central Area to be constructed during the initial stage or stages of development, (i.e. Central Area should be partially located within the servicing area of Stage 1 development).

The concept therefore envisages the Central Area as being located approximately in the middle of the project area immediately south of the Canadian Pacific Railway, the major rail facility of a regional nature passing through the project area.

Major roads serving the Central Area and connecting it to Highway 401, were conceptually envisaged as being firstly, a major north-south spine, Neilsons Road, connecting the Central Area to Highway 401 and existing uses south of the 401; and a secondary feeder road radiating outwards from the Central Area in a south-westerly direction and connecting again toward Highway 401 (intersection of Highways 48 and 401).

This proposed location establishes the Central Area on the principal height of land within the project area, and places it adjacent to the proposed major east-west open space belt connecting the Rouge River Valley to the Highland Creek area. The Central Area being located along this major open space link will fully utilize this element for the provision of major park, recreational and educational facilities.

The conceptual location of the Central Area allows for locating a part of it within the first stage servicing area, so as to make feasible the first stage development of the centre.



THE CONCEPT

	Major Open Space System
	Major Vehicular Corridors
	Possible Subway Extension
	Possible Rapid Transit 'GO' System
	Transportation Centre
	Industrial Buffer Zone
	Central Area
	Community Park and School Campus
	Neighbourhood Centre and Open Space System
	High Density Residential
	Medium Density Residential
	Low Density Residential
	Existing Vegetation



6.3 Residential Areas

The concept envisages the Central Area being surrounded by a radial pattern of residential "neighbourhoods". These residential neighbourhood elements are strongly related to the Central Area by a major pedestrian spine which directly or indirectly connects the "heart" of each neighbourhood to the Central Area. The "heart" of each neighbourhood element is seen as being composed of the neighbourhood park, elementary school, day care and nursery facilities, a convenience-type retail facility, and social and recreational facilities.

Residential densities are proposed to be greatest in that part of each "neighbourhood" immediately adjacent to the Central Area, i.e. in an approximate ring around the "core" area. Such a concentration of high densities expresses the urban character of the Central Area and environs by the resulting building heights and corresponding human activity, and further, locates the greatest number of residents close to the major shopping, cultural, recreational and business facilities.

The second-highest residential densities are proposed to be located primarily around the neighbourhood park-school areas. The dwelling types representing this density classification will be family-oriented with a correspondingly higher proportion of children. The proposed location of these medium densities around the park will enable the residents, by their proximity, to fully utilize the open space, educational and recreational facilities provided by the park complex.

The lowest residential densities are proposed to be located at the outer edge of each neighbourhood with pedestrian access oriented along the local street system toward the neighbourhood park.

Outside the project area, a similar range of residential densities has been focused onto centres of community commercial and educational facilities primarily located at major intersections of the arterial road system.

6.4 Industrial Areas

In the Scarborough Official Plan, the Malvern project area is shown as being virtually surrounded by industrial land uses with the exception of the Rouge River Valley area to the north-east.

The initial concept for the Malvern project area therefore did not consider the inclusion of further substantial industrial areas. The only sizeable industrial areas considered within the context of the conceptual plan were a strip of prestige, high-performance industry to be located immediately adjacent to and north of Highway 401, and an industrial park area to the north-east of the Sheppard Avenue - Morningside Avenue intersection. The primary purpose for proposing the industrial uses along Highway 401 was to create a buffer between the residential uses and Highway 401, so as to reduce the effects of air, noise, and visual pollution on the residential areas. The remaining proposed industrial sites have utilized lands adjacent to existing industries and arterial roadways.

6.5 Open Space System and Pedestrian Movement

An integral element of the Malvern concept is the open space system. The basic components of this system are the Rouge River Valley, situated along the eastern periphery of the project area, and the northern extension of the Highland Creek Valley system, situated to the west of the project area.

The concept has proposed an urban open space corridor connecting these two valley systems. This east-west open space corridor is located south of the Canadian Pacific Railway and passes through the proposed Central Area of Malvern. The proposed corridor is primarily located on lands at lower elevations.

This belt of open space connects the adjacent major open space systems into the heart of the project area and provides the Central Area with the opportunity of utilizing such open space, in part, for the major recreational, educational and park facilities, required to serve the Malvern population.

The second open space system constituting a major element in the conceptual plan is that found within each of the

radially-oriented neighbourhoods. This system comprises, basically, a neighbourhood park together with a major pedestrian open space "spine" which connects the park directly or indirectly to the Malvern Central Area. Within this neighbourhood park area are found elementary school, day care and nursery school facilities retail and snack bar facilities and recreational and social facilities.

6.6 Transportation

Existing and proposed transportation corridors played a significant role in the development of the Malvern concept.

Highway 401 is the major road facility serving the Malvern area. The concept proposes three interchanges by which access from Highway 401 to Malvern and the Malvern Central Area may be achieved. These are located at the intersections of Highway 401 with Highway 48, Neilsons Road and Morningside Avenue.

The concept envisages two possible rail modes within the project area with "stop" facilities at a centrally-located transportation centre.

7. The Master Plan

The conceptual plan for Malvern has provided the framework for the subsequent master plan. Whereas the conceptual plan presented a general “broad brush” statement of the aims and policies for Malvern, the master plan, in contrast, presents a more detailed, explicit plan which incorporates and illustrates the physical, social and economic objectives:

7.1 Residential Areas

The Malvern development team together with the Scarborough Planning Department, using the conceptual plan as a base, evolved the road and neighbourhood structure illustrated in the Master Plan — Plate No. 5. The total Malvern Community, including those privately-owned lands outside the project area, is planned to accommodate a target population of 57,000 persons on a total residential area of approximately 1,122 acres. The project area alone will accommodate approximately 42,400 persons on a residential area of approximately 833 acres.

The twelve proposed neighbourhoods are shown radially oriented to the geographically-centred Central Area.

7.1.1 Factors Affecting Neighbourhood Size

The size of each neighbourhood unit was influenced by a number of factors, the most significant of which include:

1. The optimum size of a public elementary school as recommended by standards established by the Board of Education of the Borough of Scarborough;
2. The particular housing type mix, and corresponding elementary school children generation, projected to occur in each neighbourhood; and
3. The land use standards established by the Borough of Scarborough for all uses in the neighbourhood, including park and school sites, etc.

Based on these factors, the average area of each of the twelve neighbourhoods is proposed to be about 150 acres, with each accommodating an approximate population of 4,800 persons.

7.1.2 Factors Influencing Neighbourhood Design

In terms of physical planning, the principal factors which have molded the internal neighbourhood design are as follows:

1. Each neighbourhood possesses a centrally-located focal point consisting of park, recreational, educational, social and retail facilities;
2. The road system in each neighbourhood discourages through traffic;
3. Vehicular-pedestrian confrontation has been minimized;
4. A strong pedestrian walkway system has been focused on the neighbourhood school, park and communal facilities, and links this neighbourhood complex to the Malvern Central Area and its major facilities including shops, transportation centre, secondary schools, etc.;
5. A wide range of housing types is provided so as to meet the needs of a comprehensive range of different social and income groups;
6. Residential densities are greatest within the neighbourhood in those areas adjacent to the Malvern Central Area, so as to reflect the intensive character of the Central Area and to locate the greatest number of people in proximity to the Central Area uses. These densities decrease generally as the distance from the Central Area increases;
7. Medium density housing types are located around the neighbourhood parks, so as to take advantage of the proximity of the facilities provided by the park complex;
8. Existing natural features such as ravine areas and woodlands are incorporated as much as possible into the parks, walkways and other land use areas;
9. Residential areas are designed so that no direct vehicular access is possible from individual housing units onto arterial roads. Rather, access from the unit is made onto the internal neighbourhood road system which in turn feeds into the major arterials.

The detailed conceptual plan of a standard neighbourhood is illustrated by Plate No. 7. This plate presents the concept for Neighbourhood 8, the first stage of residential development.

This plate will also be helpful with reference to the following discussion concerning the functioning of the neighbourhood.

7.1.3 The Neighbourhood

Each neighbourhood within the Malvern master plan has been planned so as to provide those elements necessary for a healthy living environment for its residents. Such a significant objective must satisfy many prerequisites of both a social and physical nature.

One of the major objectives is the realization of a sense of identity for the residents. The strong neighbourhood form characterized by a vital neighbourhood centre is intended to provide this sense of identity for the residents of each neighbourhood. The clear physical demarcation of each neighbourhood together with its comprehensive internal facilities and its relationship with a major Central Area clearly removes any similarity of the Malvern development to the largely uncontrolled suburban sprawl so typical of prevalent residential growth in expanding urban areas today.

A second major objective was to realize a neighbourhood plan that would provide those elements necessary for the physical and social needs and wants of the population. The provision of a strong neighbourhood centre accommodating social, educational and convenience retail facilities will go a long way in satisfying this objective.

The proposed heart of each neighbourhood is composed of a complex including a neighbourhood park, a public elementary school, a day care and nursery centre, a small tuck shop type retail outlet with associated coffee and milk bar, and integrated social and recreational facilities.

Plate 5

MASTER PLAN

	Low Density Residential - Single Detached Houses, Semi-Detached Houses, Court Houses, Street Town Houses
	Medium Density Residential - Cluster Town Housing, Terrace Housing
	High Density Residential - Apartment Buildings
	Institutional Residential - Senior Citizens Housing, etc.
	Industrial Uses
	Institutional Uses
	Neighbourhood Commercial
	Community Commercial
	District Commercial
	Junior Public Schools
	Senior Public Schools
	Secondary Schools
	Separate Schools
	Neighbourhood Park
	Community Park
	District Park
	Walkways and Other Open Space
	Commercial Recreation
	Neighbourhood Facilities
	Churches
	Transportation Node
	Neighbourhood Number





7.1.4 Social Facilities

The social facilities include: *meeting rooms*, which would be available to individuals or groups within the neighbourhood, i.e. boy scouts, lodge meetings, citizens meetings, and church groups, etc.; *hobby and craft facilities* accommodating such activities as shop work, ceramics, painting, sculpture etc.; *municipal social welfare and health facilities*, providing accommodation for neighbourhood social workers and other welfare and health agencies. The involvement of such agencies at the neighbourhood level would introduce a sense of intimacy, cooperation and informality into a standard project relationship that at present leaves much to be desired. The proposed approach to neighbourhood social welfare is already being experimented with in Scarborough and the proposed facilities in Malvern will provide an integrated “home” for such a programme.

7.1.5 Educational Facilities

Educational facilities include a public elementary school, and day care and nursery facilities. The concept proposes the “throwing open” of the school complex, including playground facilities, to the neighbourhood population for after school use, and it is envisaged that all the forementioned meeting room facilities will be provided for within the framework of the school structure. Although supervisory problems are inherent in such a proposal, school plant which is financed by the taxpayer should not sit unused for any part of the day when the use of its resources could benefit the neighbourhood population.

The day care and nursery facilities will allow mothers in some social and income groups to work part time so as to augment the family income. Such facilities will also enable children to start the educational process at as early an age as possible.

7.1.6 Recreational Facilities

Recreational facilities in the neighbourhood, it is proposed, will include the full range of play areas for all ages, including tot lots, “junk” playgrounds, equipped creative playgrounds, playing fields, areas for court games, outdoor swimming pool and splash pool facilities, and passive areas for just sitting, thinking, watching, strolling, etc.

In addition, the indoor recreational facilities of the school would be made available for neighbourhood use during school off-hours.

The outdoor recreational facilities are all contained within the park-walkway system.

7.1.7 Combined Tuck Shop-Coffee Bar

A combined tuck shop-coffee bar will provide the day-to-day “convenience goods” needs of the neighbourhood. These goods would include such items as milk, bread, butter, candy, papers and magazines, smoking supplies, etc. In conjunction with the tuck shop outlet it is proposed that a combined coffee bar-milk bar be included. Such a facility would provide the youth and adults with a meeting place — for the mothers, a break during the day over a cup of coffee, or perhaps a sociable meeting with a neighbour after leaving the young at the day care centre — for the children, a place to buy candy etc. — and for the teenagers, a place to sit over a soda, talk or listen to music.

7.1.8 Description of Neighbourhood 8

Neighbourhood 8 is a standard neighbourhood in the Malvern project and will serve as a basis for the following description.

The major neighbourhood walkway connects the neighbourhood park-school complex to the Malvern Central Area. Access to the Central Area from the neighbourhood is achieved via a well-designed, safe underpass. The housing types in Neighbourhood 8, situated immediately adjacent to the Malvern Central Area, constitute the highest residential densities in the neighbourhood. They include high-rise apartment buildings which are integrated in part with the terrace housing, and cluster town housing. The major pedestrian walkway, passing through the centre of these higher density units, connects them to the neighbourhood park and school complex as well as to the Malvern Central Area. Pedestrian movement from this housing area to the neighbourhood park-school complex and the Malvern Central Area, is unobstructed by roads except for that pedestrian movement from housing situated in the north-east sector of the neighbourhood. Pedestrians from

this area need cross only one local road to reach the major pedestrian walkway.

Surrounding the park-school complex are housing types of medium density. These include street town housing and semi-detached housing. The street town houses are located along cul-de-sacs which have been strongly oriented to the neighbourhood park-school complex. Such an orientation serves two purposes. Firstly, the residents on the cul-de-sacs have direct access to the central neighbourhood facilities without having to cross a road in the process. Secondly, these same cul-de-sacs and their associated walkways accommodate pedestrian movement from the single-family detached area south of the neighbourhood collector road to the neighbourhood park-school complex.

The street townhouses have been located around the neighbourhood park so as to provide the residents with adjacent open space and recreational facilities which, because of higher densities, they do not possess to the same degree as do the lower density units. Furthermore, the distribution of the higher density dwelling types around the neighbourhood park and major pedestrian walkway makes possible the complete separation of pedestrian movement from vehicular movement for a significant part of the neighbourhood population.

The semi-detached housing located on the east and west sides of the neighbourhood north of the neighbourhood collector road is also strongly oriented to the park-school complex, although it is necessary in each case to first cross one local road.

The major concentration of single-family detached dwelling units is located south of the neighbourhood collector road. The local roads and integral pedestrian sidewalk system serving this housing area are designed so that their connections to the neighbourhood collector road occur at those points which allow for continued pedestrian movement to the neighbourhood park-school complex. Such pedestrian movement is accommodated by either the cul-de-sac walkways or walkways along the northern side of the neighbourhood collector, both of which provide direct, road-free access to the centre of the neighbourhood.

The neighbourhood collector road has been designed with three major aims in mind; firstly, it is meant to

accommodate only the neighbourhood internal traffic movements; secondly, it is intended not to interrupt the major pedestrian walkway system; and thirdly, its alignment is of a circuitous nature so as to discourage not only "shortcutting" by through traffic but also local speeding. The neighbourhood collectors in each neighbourhood are linked together and form a continuous loop which connects up with the proposed transportation centre located in the Central Area. Such a continuous system would provide the basis for a potential internal mini-bus system. Local roads, serving the neighbourhood, feed for the most part into the neighbourhood collector road.

Two of these local roads, one on the west side and one on the east side of the neighbourhood, provide additional access onto the major arterials bordering the neighbourhood, to the west and north. All neighbourhood roads are oriented in their alignment to the neighbourhood park-school complex.

7.2 The Malvern Central Area

The Malvern Central Area accommodates a number of major land uses. The main categories include: major commercial facilities; district park with associated open space and recreational facilities; transportation centre; high-rise apartments; and community educational and associated park and recreational facilities.

7.2.1 Central Area Locational Factors

The major factors which determined the location of the Malvern Central Area were discussed in Section 6.2. These factors are summarized as follows:

1. The centre should be as near as possible to the geographic and population centre of the Malvern community;
2. The centre should be strongly oriented to road and rail transportation corridors;
3. The location of the centre should be intimately related to the open space system;

DRAFT PLAN — NEIGHBOURHOOD 8



SITE PLAN — NEIGHBOURHOOD 8



-
4. The centre should be visually significant, if possible, as seen from the surrounding community;
 5. First stage development of the centre should be possible as related to the first stage servicing area.

These locational factors were integral considerations in the formulation of the concept and subsequent master plan which is discussed in the following text.

7.2.2 Malvern Central Area Master Plan

The Malvern Central Area complex occupies a substantial area of land located adjacent to and south of the Canadian Pacific Railway right-of-way. In general it extends as far south as the Tapscott Road-Sewells Road alignment; as far east as the Nugget Avenue-Sewells Road intersection and as far west as the community park-secondary school/senior public school complex situated just west of Tapscott Road and south of Nugget Avenue.

The major shopping complex within the Central Area is to be located on the northerly slope of one of the highest points of land within the Malvern project area. This complex is planned for orientation in an east-west direction and is characterized by a pedestrian shopping concourse which is separated from vehicular traffic.

The major tenant within this concourse is to be a two-level department store, located at the eastern end of the concourse, which has a direct pedestrian connection from the pedestrian deck to the upper level of the department store. Parking facilities immediately south of and adjacent to the department store are planned to be built in a structured form, the size of such structure being dependent upon the extent of future parking requirements.

West of the department store is a square bordered on the south by retail facilities and a major food supermarket. This square serves as a reception area for pedestrian movement to the various shopping areas and to the major Central Area square situated north of the department store at the lower level.

West of the shopping concourse square is planned a linear shopping mall which is terminated at its western end by

a second major supermarket. The retail shops along this mall are located at pedestrian deck level and may include office and other facilities above the shops.

The major parking facilities are located primarily in the proposed parking structure adjacent to the department store and in two large, open parking areas located north and south of the shopping mall. Access to these parking areas is to be achieved from Tapscott Road and Nugget Avenue.

A loop-type service road is to serve the shopping complex at its basement level. Such a system would allow for the maximum separation of vehicular and pedestrian movement.

General vehicular movement within the shopping complex is to be accommodated by a peripheral road which allows shoppers to drive from one major shopping function to another. This road is designed to pass under the shopping concourse at a lower level so as to keep separate all vehicular and pedestrian movement.

To the west of the major shopping facilities, but still within the same area, it is proposed that provision be made for a special complex to accommodate senior citizens, composed of both high-rise buildings located on the height of land and low-rise terrace units located on the northern slope overlooking the district park. This complex, including a "church campus", will be directly connected to the shopping concourse by means of a pedestrian bridge over the lower-level road system.

Immediately north and west of the department store, at the eastern end of the shopping concourse, is located the major pedestrian space within the Malvern shopping area. This space is seen as the main meeting and gathering spot in the Malvern Central Area. Buildings of a residential, cultural, civic and entertainment nature, together with the department store, enclose this space. Fountains, flags, seating areas, restaurants, theatre, specialty shops and landscaping, together with the activity generated by other surrounding uses, are some of the significant elements that will make this square the exciting spatial focal point for the whole Malvern development.

This square is also a significant element in two major land use components directly associated with the Central Area shopping facilities. These two components are the major open space system, and the transportation centre.

7.2.3 Central Area Open Space

One of the stated factors in determining the location of the Malvern Central Area was the aim of integrating the Central Area into a major open space system connecting the Rouge River Valley to the Highland Creek System. The proposed master plan of the Central Area has attempted to realize this aim.

This major east-west open space connector has been brought both into and around the Central Area shopping complex. The introduction of this open space system, from the eastern direction, into the shopping complex, occurs at the major square situated immediately north of and adjacent to the department store. Pedestrian access into the square from east of Neilsons Road is achieved by a pedestrian underpass.

From this point the open space system continues westerly in two forms: the first is comprised of a "hard" open space facility. This facility is in the form of a pedestrian deck which connects all land uses within the central shopping area to adjoining neighbourhoods and community park and school facilities. The second form of open space is a "soft" open space system. The major component of this system is the district park, located north of the commercial core, between Nugget Avenue and the C.P.R. and extending from the proposed transportation centre to a point somewhat west of Tapscott Road.

Access to this district park from the central shopping area is provided primarily by a major walkway which leads north-west from the square, across Nugget Avenue and into the district park proper. At the western end of the district park, a strong pedestrian connection is made, by means of a grade-separated walkway, to the community park and campus. The "soft" major open space system then continues westward finally linking up with the Highland Creek system.

East of the central shopping area and Neilsons Road, the "soft" major open space system passes easterly through an area including high density residential facilities, a senior

separate school and an institutional complex, before linking up by means of a pedestrian underpass with community park and school facilities. The system then continues eastward, finally linking up with the Rouge River Valley System.

7.2.4 Central Area Transportation Facilities

The proposed transportation centre is planned as an important and integral element of the Malvern Master Plan. It has been strategically located near the geographic centre of the Malvern Community, immediately adjacent to the Canadian Pacific Railway line. The centre is planned to accommodate terminal facilities for potential 'GO' rapid transit facilities, express bus service and internal neighbourhood mini-bus service. Parking facilities are also proposed for the centre so as to satisfy the parking requirements of the daily commuters.

The transportation centre is easily accessible from both the continuous internal neighbourhood collector road system and the major arterial road system serving the whole Malvern community.

The centre is also linked directly to the Malvern Central Area shopping complex by a major walkway system. This walkway system is an integral component of the community pedestrian circulation pattern. It is planned to connect Neighbourhood 1, across the Canadian Pacific Railway line to the transportation centre. From this point it continues further south to link up with a high-rise apartment building complex on the west side of Neilsons Road, to cross Nugget Avenue, and to connect with the pedestrian walkway system of the Central Area shopping centre.

7.3 Commercial Facilities

The Malvern Community will, as a result of its size, structure and projected population, require a wide range of commercial facilities. The demand for such facilities has been carefully analyzed by the development team in conjunction with the Scarborough Planning Department and categories of commercial facility requirements established. These are illustrated on the Malvern Master Plan — Plate No. 5.

A significant factor considered in determining the number, size, and location of commercial facilities for the Malvern Community, was the existing and proposed pattern of retail shopping facilities in those areas to the west and south of the Malvern project area.

One of the most significant retail facilities of a competitive nature is the proposed Scarborough Town Centre which is to be located just south of Highway 401 and some two to three miles west of the Malvern site. This Town Centre will constitute a regional shopping facility and will be comparable in size to the Yorkdale Centre in the Borough of North York.

7.3.1 District Commercial Facilities

The major shopping facility for the Malvern Community will be a "District Commercial Centre". It will be an integral part of the Central Area in conjunction with a wide range of special residential, educational, recreational, cultural, entertainment, and other facilities.

In its context, the "District Centre" will not compete to any great extent with the regional Scarborough Town Centre. The Malvern Centre will in fact serve primarily only the Malvern Community itself, which is expected to account for approximately 85% of the Central Area sales volume. In addition, the major physical and topographical elements surrounding the Malvern project area are contributing factors in restricting the potential trade area of the District Centre.

The proposed shopping complex located in the Malvern Central Area can be classified as sub-regional in scope. Such centres generally provide from 150,000 to 300,000 square feet of gross leasable floor area and usually include one department store as the prime tenant. For comparison purposes, the proposed Malvern shopping centre will be similar, in scale and range of facilities, to the Don Mills Shopping Centre situated in North York.

The Malvern Centre is planned to provide a total of approximately 267,000 square feet of gross leasable floor area. This floor area is broken down as follows:

Department Store	100,000 sq. ft.
Supermarket and Other Food Outlets	86,000 sq. ft.
Convenience Goods	38,000 sq. ft.
Comparison Goods	30,000 sq. ft.
Ancillary Facilities	13,000 sq. ft.

The above retail facilities together with other specific Central Area uses including parking, require a site of approximately 24 acres.

7.3.2 Community Commercial Facilities

The second highest category of retail facilities proposed for the Malvern Development is represented by the Community Commercial Centre.

These centres are generally situated close to the intersection of major arterial roads and range in size from 30,000 to 60,000 square feet of gross leasable floor area. The prime tenant of such centres is usually a food supermarket.

Two such community shopping centres have been proposed within the Malvern project area. The first of these centres is located at the south-west corner of the Morningside and Sheppard Avenue intersection. This intersection is a major entry point to the Malvern project area from Highway 401. The second centre is located just east of the Morningside and Sewells Road Extension intersection. This centre is primarily meant to serve neighbourhoods 3, 4 and 5 which are somewhat isolated from the "District Commercial" facilities and are further separated from the general project by Morningside Avenue, a parallel railway spur line and a tertiary branch of the Rouge River Valley system.

A third community shopping facility has been proposed, by the Borough of Scarborough in its Secondary Plan, to be located at the south-east corner of Sheppard Avenue and Markham Road. The land on which this centre is proposed is outside the government holding and is owned by Dominion Stores Limited.









7.3.3 Neighbourhood Commercial Facilities

Two categories of neighbourhood shopping facilities have been proposed in the Malvern master plan.

The first category comprises neighbourhood centres which usually include less than 10,000 square feet of gross leasable area and which are intended strictly for local shopping purposes. Two such neighbourhood centres have been proposed, at the suggestion of the Scarborough Planning Department, to be included in the Malvern plan. One is located at the intersection of Sheppard Avenue and Neilsons Road and the other at the intersection of Tapscott Road and Finch Avenue.

The second category of neighbourhood commercial facilities proposed in the Malvern master plan, but still subject to formal approval by the Scarborough Planning Board is the small “tuck shop” type of neighbourhood outlet with associated coffee-milk bar facilities. It is proposed that these small centres, providing only the minimum of convenience goods, would be an integral part of the neighbourhood centre. Their design and integration into the physical structure of the neighbourhood centre is subject to further detailed planning and design study.

7.3.4 Special Commercial Facilities

An additional commercial facility proposed for inclusion in the Malvern master plan is a motel-hotel complex. This facility will provide accommodation and entertainment facilities for both visitors and residents.

The proposed location for this motor-inn facility is just north-west of the Morningside Avenue-Highway 401 interchange. The site possesses physical and locational attributes that make it very well suited for the proposed use. The topography is dramatic in that it slopes significantly downwards from a high point in the north-west to the well-wooded ravine lands to the south-west. The locating of the building complex on the high ground would provide it with maximum visual exposure both from Morningside Avenue and Highway 401, and access to the complex would be easily achieved from Highway 401 by means of the interchange at Morningside Avenue. The proposed motel-hotel, located in this park-like setting yet close to major transportation corridors, would provide the opportunity to design a first class motor-inn complex

similar to the Inn-on-the-Park in concept.

7.4 Parks, Open Space and Walkways

The Parks-Open Space system proposed for the Malvern Community has been planned in accordance with area standards as established by the Borough of Scarborough. Borough facilities are broken down into three categories: Neighbourhood Parks, Community Parks and District Parks. Each of these three park types provides facilities of both a different nature and scale depending upon the size of the population each is meant to serve.

The total park space requirement, for all three park categories, is 2.5 acres for every 1,000 persons living in Malvern. On this basis, and with the total Malvern Community population projected at 57,100 persons, 143 acres of park land should be provided. Half of this acreage is designated for Neighbourhood Parks, about 20% for Community Parks and the remaining 30% for a District Park.

Over and above these Borough park requirements, additional open space areas have been planned within the government-owned project area. These areas are primarily comprised of pedestrian walkways situated within the neighbourhoods and existing ravine lands.

A general breakdown of the park proposals is shown in the following table.

TABLE 3
PARKS — TYPES, NUMBER, AREAS

Type	Number	Area in Acres		Total
		Inside Holding	Private Holding	
Neighbourhood Parks	12	48	24	72
Community Parks	3	31	—	31
District Parks	1	40	—	40
Subtotals	16	119	24	143
Walkways and Ravines	n.a.	34	n.a.	34

7.4.1 Neighbourhood Parks

The Neighbourhood Park, as the name implies, is planned to serve the everyday recreational needs of the people living in a neighbourhood. These parks should not be of a size or character that would attract the use of their facilities by populations outside the neighbourhood. Each neighbourhood park varies in size from 5 to 8.3 acres, depending upon the projected population to be accommodated within each neighbourhood. The average neighbourhood park size is 6 acres and it is, in each instance, situated adjacent to the neighbourhood public elementary school.

Each neighbourhood park and associated public elementary school has been located near the centroid of the neighbourhood. Walkways from the surrounding neighbourhood residential areas are focused onto the park-school complex, and the major walkway in each neighbourhood connects this complex directly or indirectly to the Malvern Central Area and its associated transportation facilities.

Within the proposed park-school complex it is planned to include the following recreational facilities:

1. Field Game Areas — Football Field, Baseball Diamond;
2. Outdoor Skating and Hockey Rink;
3. Outdoor Adult Swimming Pool and Children's Wading Pool;
4. Court Games — Courts for Tennis, Badminton, Basketball, Volleyball, etc.;
5. Playgrounds — to accommodate playground facilities for each major age grouping, e.g. tot lots, equipped creative playgrounds, "junk" playgrounds;
6. Free Play Areas;
7. Landscaped Passive Areas;
8. Shelter Area;
9. Landscaped Walkways.

The Master Plan follows the Borough concept of a "no-fencing" policy for the school area. In this way the park-school facilities can be combined to provide a more

complete and integrated neighbourhood recreational complex.

7.4.2 Community Parks

Community Parks are areas planned to provide special open space and recreational facilities for a population significantly larger than the neighbourhood scale. In the case of Malvern, this "community" population includes approximately 20,000 persons or four neighbourhoods. The size of the Community Parks in Malvern average approximately 10 acres each. This represents 0.5 acres of Community Park space for every 1,000 residents in the total Malvern community.

Three Community Parks of 10 acres each are planned for development in the Malvern project area. One combined senior-secondary school campus has been planned in conjunction with each Community Park. The school campuses also serve a community-scale population of approximately 20,000 persons. As was the case for the neighbourhood park-school complex it has been proposed, at the community level, to combine the recreational facilities of the Community Park and the senior school campus so as to make maximum use of their respective facilities.

Within the Malvern Master Plan, two of these Community Park - Secondary School Campuses are proposed within the general Malvern Central Area, one in the westerly part of the Central Area and one in the easterly section. The third Community Park-Secondary School Campus is located just east of the Morningside Avenue diversion and south of the Sewells Road Extension.

Those facilities planned for inclusion within the Community Parks are as follows:

1. Fields for baseball, softball, football — equipped with facilities for inter-school competition;
2. Ice Rink for hockey and skating including facilities suitable for inter-school and community-wide hockey competition and skating exhibitions;
3. Enclosed Swimming Pool with bath house, associated with the school campus;

4. Tennis Courts, shelter and changing room-bath house facilities;
5. Court Areas for basketball, volleyball, shuffleboard, horseshoes, etc.;
6. Areas for Lawn Games;
7. Shelter with toilets and drinking water facilities associated with the school complex;
8. Landscaped pedestrian and cycle ways;
9. Landscaped and buffer areas;
10. Tagged trees, bird feeding stations, seating areas and ponds;
11. A bridlepath incorporated into the community ravine system;
12. Outdoor winter sports areas—small slopes, trails, etc.

7.4.3 District Park

The District Park provides major recreational facilities on a community-wide basis. Two of the major parameters for this category of park are firstly, that it be located near major transportation facilities including major roads and road-rail transportation centres, and secondly that it be located in such a way as to be equally accessible from all areas which it serves. District Parks usually range in size from 20 to 40 acres.

The District Park in Malvern is approximately 40 acres in area and represents about 0.75 acres for each 1,000 persons in the community. It is located between the proposed district shopping centre complex and the Canadian Pacific Railway line. The park extends in an east-west direction from the transportation centre on the east, to the Project Area boundary on the west.

The District Park is, as previously described, an integral component in the Malvern "soft" major open space system, and, as such, is linked to the Malvern Central Area pedestrian system and the neighbourhood walkways which connect the Central Area to the neighbourhoods. It is very accessible from all parts of Malvern due to its key central location and corresponding proximity to major road facilities. Three major arterial roads lie adjacent to the park and include Tapscott Road, Nugget Avenue and Neilsons

Road. In addition, being located immediately adjacent to the Canadian Pacific Railway main line, the park will have direct contact with any future rapid transit facility.

The District Park, representing the largest park in the Malvern Community, is planned to accommodate a specialized range of both active and passive recreational facilities. The active facilities are primarily located at the eastern end of the District Park along the major pedestrian walkway which connects the transportation centre and the District Park to the major central shopping complex. These active uses are proposed to include:

1. Youth Centre;
2. Y.M.C.A.-Y.W.C.A. - Health Club;
3. Artificial Ice Arena and Curling Facilities;
4. General Sports Areas.

The largest part of the District Park is proposed to be devoted to uses of a more passive nature. The focal point of this area is proposed to be a small man-made lake.

Additional passive type facilities would include:

1. Band Shell/Open-Air Theatre;
2. Small ponds;
3. Botanical gardens;
4. Pedestrian trails and walkways;
5. Cyclepaths;
6. Picnic areas together with shelters and cooking facilities;
7. Tagged tree areas;
8. Land forms for summer and winter sliding and sledding;
9. Boating on the lake;
10. Bird life on lake and throughout park.

7.4.4 Walkways and Ravines

The proposed walkway system in Malvern extends from the smallest scale sidewalk situated alongside the local roads to the pedestrian walks in the major open space and ravine system and the district shopping centre.

The system includes:

1. The local street sidewalk system of the single-detached housing and other housing areas. These streets and sidewalks are oriented toward the neighbourhood school-park complex.
2. The walkways connecting dwelling units in the cluster town, terrace and apartment housing to the major neighbourhood walkway.
3. The major neighbourhood walkway interconnection between the neighbourhood park-school complex, the dwelling units and the Malvern Central Area. These walkways will likely include recreational uses such as tot lots, seating areas, landscaped areas and other open space amenities.
4. Pedestrian ways in the Malvern Central Area include the "hard" pedestrian mall and the "soft" District Park walkways.

The preceding description of these walkway systems indicate that the nature and size of these different systems will differ appreciably. Each proposed walkway system is still subject to further detailed design and planning at which time details of size, landscaping, alignment, integrated recreational facilities (tot lots, playgrounds, etc.) will be more accurately determined.

It has been further proposed that cycle paths be integrated into the walkway system where possible.

Ravine Lands

Major ravine lands, situated east of Morningside Avenue, will be retained as major open space and are planned to connect the Malvern internal open space system to the Rouge River Valley system and the Zoological Gardens, situated to the east.

This ravine land, approximately 22 acres in size, should be utilized for such informal recreational uses as horse riding, cross country skiing, picnicking, walking, nature studies, etc.

This ravine land is also planned to be connected by means of major pedestrian paths to the internal walkway system of

Malvern. As mentioned earlier in the report, it will be ultimately possible, by means of this major internal pedestrian system, to walk from the Rouge River Valley in the east to the Highland Creek System in the west, as well as to the Malvern shopping centre and all neighbourhoods located along this east-west oriented major open space system. Vehicular-pedestrian separation along the major pedestrian walkways will be achieved by grade-separated pedestrian crossings where feasible.

7.5 Industrial Areas

The Scarborough Official Plan indicates that the Malvern Community will be virtually surrounded by industrial uses. The area to the west of the Malvern Community includes the railway marshalling yards west of Highway 48 and industrially-designated lands east of Highway 48. North of the project area, between Finch Avenue and Steeles Avenue, the bulk of the land is proposed for inclusion into the Tapscott Industrial District. Within the Federal-Provincial partnership holding two significant industrial areas totalling approximately 180 acres have been indicated. The first is a band of land located between Milner Avenue and Highway 401 which is part of the Neilson Industrial District. The second, included within the Rouge River Industrial District, is situated east of Morningside Avenue, adjacent to and north of Sheppard Avenue. The total industrial area proposed for the general Malvern Community and the immediate environs represents one of the largest concentrations of industrial uses within Metropolitan Toronto.

Neilson Industrial District

This industrial area, situated between Milner Avenue and Highway 401 and extending from Markham Road to Morningside Avenue, covers an area of approximately 195 acres. Of this total, approximately 90 acres are located within the project area in the government-owned lands. Access to this industrial strip, about 2 miles long by 500 feet wide, will be from Milner Avenue which is the northern boundary of the strip.

This industrial area because of both its excellent visual exposure potential to Highway 401 and its proximity to major and minor road corridors, has been proposed to be a high-performance industrial area. It is anticipated that high

quality, non-noxious light industries of a sales-oriented nature, will prefer to locate in such an area.

Rouge Industrial District

This industrial area is located between Morningside Avenue and the Rouge River Valley to the north of Highway 401. Major access to the area will be provided by Morningside and Sheppard Avenues. A total of 290 acres of this industrial area is located within the Malvern Community and 80 acres of this total are included in the government holding. This industrial district is characterized by a picturesque, partially-treed, rolling topography. It is proposed that this area would be best developed by taking full advantage of its existing topographic and landscaping elements in order to create an industrial park complex of a prestigious nature.

Marshalling Yard Industrial Area

Taking its name from the Canadian Pacific Railway yards to the west of Markham Road, this industrial area of approximately 240 acres is situated between Tapscott Road and Highway 48. Of this 240 acres only about 10 acres are included within the government-owned lands. Some of these lands are presently experiencing the initial stage of industrial development and the extension of trunk services to the area should bring a considerable increase in development activity.

The area immediately east of Markham Road has seen the first such development activity. Although this area does not possess expressway exposure as does the Neilson Industrial Area, it does have good road connections and an attractive site. The site includes part of the northern branch of the Highland Creek system and is characterized by a rolling, well-treed topography. The site has a further advantage in that it is serviceable by railway spur lines. These combined assets should allow for the development of a highly successful industrial park. Major road access to the area will be provided by Markham Road, Finch Avenue and Tapscott Road.

The development of industrial uses in the general Markham Road area should benefit the whole Malvern Community, not only by producing an attractive residential-industrial

land use ratio but also by providing a considerable number of local job opportunities.

Although it is not suggested that a majority of Malvern workers will be employed locally, it is safe to assume that many will be. A close home-work relationship will reduce commuting time and costs and will, at the same time, eliminate some traffic that would be otherwise destined for the regional and sub-regional road network.

7.6 Institutional Areas

A number of institutional uses have been included within the Master Plan for Malvern. Some of the more significant of these include community institutional uses such as religious and health and welfare facilities.

Other institutional uses, not ordinarily found in standard housing subdivisions, have also been proposed in order to achieve a high level and range of residential, social, health and welfare, and religious institutional facilities for the whole of the Malvern Community.

The major residential and religious institutional facilities have been shown on the Malvern Master Plan. However, many of the other community institutional uses are not shown separately on the plan for the reason that they constitute an integral part of a larger complex, e.g. Neighbourhood Centre, District Shopping Centre and Community Centre. Detailed descriptions of these institutional uses are presented in Section 8 of this report.

Special Institutional Housing

Several areas of institutional residential land use have been shown on the Master Plan. This housing has been primarily designated for senior citizens in order to achieve the full spectrum of accommodation facilities for all age groups in the Malvern Community. In each instance these housing areas are located within the general Central Area in close association with the District Shopping Centre and adjacent park areas. This close relationship would allow the future residents to be in a position to take full advantage of the major shopping, recreational, social and transportation facilities.

Approximately 600 senior citizen apartment units have been proposed to be located within the Malvern Central Area.

7.7 Transportation

The viability of Malvern as a new community is highly dependent on the future arrangements for moving people and vehicles from the area to places of employment, shopping facilities, schools and various other activities. In addition to the internal pedestrian and vehicular system described earlier, the project requires a system of arterial roadways and public transportation to accomplish these purposes.

7.7.1 Roads System

The arterial road system planned for the Malvern Community is illustrated on Plate 8. It shows the arrangement of main roadways, major and minor arterials and major collectors, which are projected to serve the area by providing access to and from the internal street layout. The basis for the proposed road network has been the projected traffic volumes which the Malvern Community is expected to develop, the logical connections with other areas and other main roadways within the vicinity, and the planning efforts devoted to keeping intensive traffic routed around individual neighbourhoods rather than through them.

A continuing review of the impact of traffic on the community roadways has been maintained in order to resolve the traffic implications as efficiently as possible.

These analyses have also taken into account the traffic expected to be generated from outside the project — e.g. east-west volumes on Highway 401, additional traffic on Neilsons Road from industrial areas to the north.

The major arterial roads which will serve the Malvern Community are Sheppard Avenue, Neilsons Road, Morningside Avenue, Finch Avenue and Markham Road. They are intended for the purposes of serving the Malvern Community, of accommodating through traffic from east to west and north to south, and of distributing this traffic to other arterials and to Highway 401. The road allowances

for these roads have been established at a width of 120 feet and access to them will be restricted to points of intersection with other major roadways. The alignments shown have been adopted in consultation with Borough and Metro authorities, and it is expected that these will be maintained except for the northerly portion of Morningside Avenue and the easterly leg of Finch Avenue which have been referred for further study as mentioned earlier. The major arterial roads are planned to be of four or six-lane capacity depending on future traffic volumes, with median separation of opposing lanes in certain instances, e.g. Neilsons Road and that part of Tapscott Road located south of the District Shopping Area.

Planned as minor arterial roads are the Tapscott and Sewells Road Extensions, Nugget Avenue and Milner Avenue. In addition, three sections of roadway are classified as minor arterials; two of these connect Sheppard Avenue with the Central Area, and one connects from Finch Avenue to the Sewells Road Extension. The function of these roads is to pick up the traffic generated within neighbourhoods and to carry it to the major arteries and/or to the Central Area. Generally, the minor arterials are proposed to be 42-foot wide pavements on 86-foot road allowances.

A major collector road runs along the southerly extremity of the Central Area between the Tapscott and Sewells Road Extensions, and is planned to provide the main access and egress service for the District Shopping Centre and other uses in the vicinity. It will take the form of a median-divided four-lane pavement on an 86-foot wide right-of-way.

A minor collector road system has been developed to run through each neighbourhood in a continuous loop. The system provides the main traffic collector within the different neighbourhoods, and inter-connects the neighbourhoods in a rather circuitous manner so as to discourage through traffic as well as excessive speeds. The minor collectors generally lead toward the minor arterial roads, and eventually toward the Central Area and the transportation centre. The local streets within the neighbourhoods represent the lowest road classification, and are directed for the most part toward the minor collector roads. The minor collectors are projected as having 32-foot pavements on 70-foot road allowances.

7.7.2 Traffic Analysis

The traffic studies previously referred to have been carried out concurrently with the land use planning, and form a highly important aspect of the overall planning effort. It is through these studies that such factors as density impact, roadways design and programming can be rationally considered.

For comparative purposes, a constant factor of projected afternoon peak hour volumes has been employed. The findings of the transportation engineering consultants for traffic generation by the Malvern project are supplemented by information received in the form of traffic forecasts for major arterial roads and highways from the Metropolitan Toronto Roads and Traffic Department and the Ontario Department of Highways.

Of primary concern here are the implications of traffic on the major arterial roads and how these are distributed to and from Highway 401. The projections shown on Plate 8, give the traffic volumes indicated at key locations.

It will be found that the key movements to be considered are those at the Markham Road-Highway 401 interchange, the Markham Road-Sheppard Avenue intersection, and the Neilsons Road-Highway 401 interchange. Turning movements at other locations, while significant, are not of the same degree of importance. Also, the volumes on the minor arterial roads within the community are not expected to present any unusual problems, and can be handled through suitable intersection design standards. Probably the most important minor artery for consideration is Milner Avenue; it will be grade separated at its junction with Neilsons Road and the manner in which it will connect with Markham Road and Morningside Avenue will be the subject of future detailed studies.

The programming of the new interchange at Neilsons Road and Highway 401 is one of the most crucial aspects in the handling of traffic volume during the development of the Malvern project. In the early stages of the development, Sheppard Avenue and Markham Road will be called upon to provide the main link from the project to Highway 401. According to the results of the traffic studies, this system, with suitable improvements to Sheppard Avenue and its intersection with Markham Road, will serve adequately.

However, by the time the westerly neighbourhoods within the community have been developed, it will be necessary to have the Neilsons interchange in operation so as to handle the projected volumes of traffic generated by the development.

The ultimate development of the total Malvern Community is estimated to generate some 5,800 work-to-home vehicle trips and some 2,600 non-local through trips using the major arterial road system during the p.m. peak hour. In addition, several thousand work-to-home trips would be generated by the adjacent industrial areas. Some 70% of the inbound external trips would approach from the west at this time of day — 47% via Highway 401, 10% on Sheppard Avenue and 13% on Finch Avenue. A further 16% of these trips would approach Malvern from the south via Markham Road.

Approximately 2,000 shopping and miscellaneous vehicle trips would take place wholly within Malvern at this time. They would be distributed over the entire community street system, but would tend to concentrate on Neilsons Road in the Central Area. Because of its central position Neilsons Road will be the most heavily used road within the project, particularly in light of its connection with the industrial area to the north and with Highway 401 to the south. However, because of its proposed restricted access design, this situation will be acceptable.

7.7.3 Public Transportation

The possibilities of linking Malvern with the rest of Metropolitan Toronto by means of a suitable public transportation system have been studied and discussed at great length. The desirability of such links is self-evident.

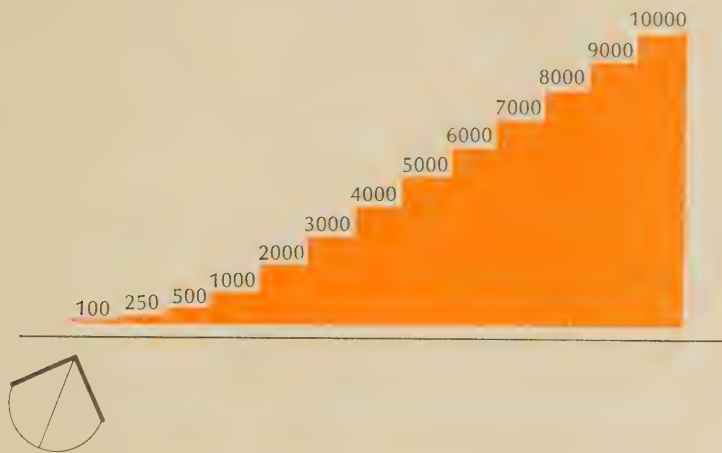
The most obvious and least costly means of providing public transportation to the project is by extending the bus system already operating on the metropolitan roadways. The route most readily connected to the community is the Sheppard Avenue East line. Buses along the route would interconnect with a number of north-south lines and eventually terminate at the new Sheppard Avenue terminus of the Yonge Street subway system. This extension should be supplemented at an early date by a new service along Neilsons Road, running through the Central Area and terminating at the Warden-St. Clair terminus of the Bloor-Danforth subway. These



Plate 8

PROJECTED TRAFFIC VOLUMES

Vehicles per hour



routes would be followed up with bus route extensions along Markham Road, Finch Avenue and Morningside Avenue in later stages of the development.

Two other lines which can be utilized for purposes of providing a faster and more convenient service toward downtown Toronto have been considered. The first potential line would involve conversion of the Canadian Pacific Railway line which runs through the north-west section of the project to a "GO Commuter" service. This would imply utilizing a line of this system to connect downtown or midtown Toronto to the north-easterly sections of the metropolitan area and beyond. The possibility of such a commuter extension is implicit in the plans which were recently presented as part of the "Design for Development — Toronto-Centred Region" programme by the province.

The second mass transit link indicated is one which would utilize the unused Ontario Hydro-Electric Power Commission right-of-way through the west-central portion of the community. This right-of-way is available from the vicinity of St. Clair and Warden Avenues to Malvern and eventually into Pickering Township. It has been indicated by the Toronto Transit Commission that it is studying the use of an "intermediate rapid transit" system, i.e. one which has passenger capacity between those of a subway line and a bus route, in order to provide an appropriate level of service to the Malvern Community and surrounding area. Such a line has been indicated in the T.T.C.'s concept for integrated rapid transit and commuter rail systems published in February, 1969.

Either of the services would most logically have a main stop in Malvern at a point near the existing railway line just west of Neilsons Road. A transportation node has been indicated here to represent this point, and the planning has been arranged to allow for an appropriate transit station along with arrangements for interconnection by buses and private vehicles and for parking facilities. Because the railway is situated at some 15 feet below natural grade at this location, the opportunity exists for a grade-separated pedestrian connection to Neighbourhood 1 which is situated north of the C.P.R. right-of-way.

A further proposal for public transportation facilities within the Malvern project includes a mini-bus system which

would operate on the local collector roads passing through each neighbourhood in the community. Such a system, termed “Dial-A-Bus”, is being tested in other areas just outside the Metropolitan Toronto area, and its adaptability to Malvern will be partly predicated on the results of this experiment. On the surface, it appears that Malvern in its planned form would prove to be ideally suited to this kind of transit facility.

7.8 Land Use Statistics

The following table lists the various categories of land use and their acreage which have been planned within the Federal-Provincial land holding.

TABLE 4
LAND USES: MALVERN PROJECT

Land Use Category		Area in Acres	
Residential	single detached houses	394	
	semi-detached houses	132	
	street town houses	98	
	cluster town housing	114	
	terrace housing	57	
	apartment buildings	38	833
Industrial		180	180
Institutional	senior citizens housing	10	
	other	52	62
Commercial	neighbourhood	3	
	community	12	
	district	24	
	hotel	5	44
Schools	junior public	45	
	senior public	21	
	secondary public	45	
	junior separate	16	
	senior separate	10	137
Parks & Open Space	neighbourhood	48	
	community	30	
	district	40	
	other	33	151
Collector & Local Streets		297	297
		1,704	

8. Community Services

Contributing to the general safety, welfare and social life within the Malvern community is a broad range of services which must be recognized and planned for. Included in this range are services which are normally provided by the Borough itself together with those which are provided by other public or quasi-public agencies.

These community services can be divided again into three levels or categories which would correspond to the three types of service centres proposed in the Malvern Master Plan; these include the Central Area, the Community Centre and the Neighbourhood Centre.

The Central Area would provide the environment for very specialized community services of a community-wide scope or nature. The Community Centre complexes, including community park and campus facilities, would provide semi-specialized facilities for the community services required by the population of a part of the overall Malvern Community, or approximately four neighbourhoods comprising about 20,000 people. At the lowest end of the range, the Neighbourhood Centre would provide accommodation for the community services required by the immediate neighbourhood population of approximately 5,000 persons.

8.1 Educational Facilities

School Site Requirements

As implied by government policy, the housing facilities within the proposed Malvern Master Plan are oriented to family-type accommodation. This emphasis on the family will in turn be reflected by a large school population for each educational component in Malvern.

The proposed educational facilities for the Malvern Community include junior public schools, senior public schools and secondary public schools. In addition, separate schools of the junior and senior category are an integral part of the development plan.

The number and area of school sites are shown in the following table.

TABLE 5
TYPE, NUMBER & AREA OF SCHOOLS
WITHIN GOVERNMENT HOLDING

Type	Number	Acres
Public — Junior Elementary	9	45
— Senior Elementary	3	21
— Secondary	3	45
Subtotal	15	111
Separate — Junior Elementary	4	16
— Senior Elementary	1	10
Subtotal	5	26
TOTAL	20	137

SCHOOL SITES ON PRIVATE LANDS

Type	Number	Acres
Public	3	15

The proposed school sites located on lands outside the government holding will serve Neighbourhoods 4, 7, and 11.

8.1.1 Public Schools

The planning of public school facilities for the Malvern Community has been based upon standards and policies established by the Board of Education for the Borough of Scarborough. These standards and policies have been established by the Board as a result of experience over the years. The standards establish particular school children generation from the various housing types and suggest optimum sizes of all school categories both in terms of students and site area required.

Junior Public Schools

It has been proposed that a junior elementary school be located at the centre of each neighbourhood in the Malvern Community. This school would accommodate classes from

Kindergarten to Grade 6. The number of pupils, in this age range, generated by each neighbourhood is recommended to be no more than 770 pupils.

As each housing type within any neighbourhood has a school factor attached to it, the housing mix is influenced by the total number of pupils to be accommodated within each elementary school. Within the 12 neighbourhoods of the Malvern Community a total of 12 public elementary schools will be required.

Senior Public Schools

Senior public schools, accommodating grades 7 and 8, are planned to serve a population of approximately 20,000 persons which would be generated by four standard neighbourhoods. This results in a ratio of one senior public school for every four junior public schools. It is proposed that the senior public schools accommodate approximately 900 pupils at a maximum, and that they be situated as close as possible to the centre of the population they serve.

Three senior public schools, therefore, have been proposed within the Malvern Community. They are situated in Neighbourhoods 5, 7 and 10. In each location they form part of a campus which also includes a public secondary school and a community park.

Public Secondary School

The public secondary schools provide collegiate, technical and vocational training and are usually planned to accommodate a maximum of 2,000 pupils each. There are three secondary schools proposed for the Malvern Community. As mentioned, these three schools are located in conjunction with the three senior public schools. These three campuses are, in turn, located adjacent to the three proposed community parks in Malvern.

Projections of future enrolments in the three types of schools are presented in the following table:

TABLE 6
PUBLIC SCHOOL ENROLMENT WITHIN GOVERNMENT HOLDING

Neighbourhood	Junior School	Senior School	Secondary School
1	769	194	355
2	736	186	361
3	450	114	285
4	287	73	198
5	374	94	207
6	765	193	428
7	176	44	68
8	761	193	386
9	761	193	379
10	766	194	372
11	168	42	64
12	740	186	428
Total A	6753	1706	3531

PUBLIC SCHOOL ENROLMENT FROM PRIVATE LANDS

Neighbourhood	Junior School	Senior School	Secondary School
3	316	80	175
4	477	121	240
5	382	96	183
7	592	149	315
11	578	146	317
Total B	2345	592	1230
Totals A & B	9098	2298	4761

8.1.2 Separate Schools

The planning for separate schools, serving pupils of the Roman Catholic faith, has been carried out on the basis of site requirements set out by the Metropolitan Separate School Board. It has been projected that one-third of all children of school age in Malvern will attend these schools.

It has been determined that sites for four junior and one senior separate school are required to serve the ultimate needs of the Malvern Community. All of these have been located within the government holding, with the junior school sites located near the centre of Neighbourhoods 7, 10, 5 and 2. Such a location places the schools within reasonable walking distance from the surrounding residential areas. The senior separate school is strategically located within the Central Area so as to best serve the whole community.

8.1.3 Planning Aspects

It is proposed that schools be located in proximity to park facilities. Such a relationship would allow for the integration of facilities offered by each use.

The junior public schools have been located adjacent to the neighbourhood parks while the three campuses accommodating the senior public schools and secondary schools have been located adjacent to community park facilities.

The junior public schools are located at the centre of each neighbourhood and vehicle access to each school is from the neighbourhood collector road. Sufficient school frontage is available along the neighbourhood collector to accommodate access and parking requirements of the various uses projected for the school-neighbourhood centre facility.

All pedestrian pathways together with sidewalks along local roads are oriented to the neighbourhood park-school complex so that the pupils can reach the neighbourhood centre as conveniently and safely as possible. Potential conflicts between pedestrian and vehicle within the neighbourhood have thereby been minimized.

The campuses, each of approximately 22 acres in area, accommodate the senior public schools and secondary schools. These campuses have the added amenity of being adjacent to community parks. It is proposed that the facilities of each school and park be shared.

Where any major roadway separates the school campus from the adjacent community park or other major central area use, it is proposed to construct grade-separated pedestrian crossings so as to achieve a strong, unobstructed pedestrian walkway system.

The first campus is planned to serve Neighbourhoods 1, 7, 8 and 11; the second, Neighbourhoods 6, 9, 10 and 12, and the third, Neighbourhoods 2, 3, 4, and 5. Each campus has been located on the major arterial road system so as to ensure maximum accessibility, both by foot and by car. The three campuses are, in addition, integral components within the major open space system connecting the Rouge River Valley to the Highland Creek System.

8.2 Social and Recreational Facilities

One of the chief objectives in the planning of the Malvern project has been to achieve a design which provides a broad range of social amenities within the future community. The inference here is that the project should allow for the realization of appropriate social goals so that a further dimension of communal living may take place, in addition to that of merely providing shelter. The opportunity to do so is increased because the planning encompasses a large tract of land held in public ownership.

Certainly in the long term there is no justification for the view that social and economic goals are incompatible. Facilities and programmes that promote the social well-being and the stability of a community will ultimately reduce the costs and problems of health and welfare agencies and police forces. They will also serve to maintain and increase the desirability of the community as a place to live and, as a corollary, its property values and municipal revenue.

There are two conditions which must be met if such social goals are to be fulfilled — the first is the provision of physical facilities with which the residents can satisfy their

needs and by means of which private and public agencies can perform their individual functions; the second is the establishment of the means to operate social programmes.

8.2.1 Neighbourhood Facilities

As with the planning of schools, shopping and other major functions, so social facilities and programmes are categorized and scaled according to the size of population they are planned to serve. These social facilities are most easily categorized into the neighbourhood level and the community/district level.

The basic element of social organization is regarded as being at the neighbourhood level, and common social facilities here are essential for the goal of social integration. Further, as a practical matter, the higher levels of services are unlikely to be developed until well after the first neighbourhoods have been developed. Unless a higher priority is given to neighbourhood facilities the first residents in Malvern would be without social services for a considerable length of time. It should be noted that, while the provision of facilities and programmes plays a very important role in satisfying the goals for Malvern, a further and equally as critical a goal is the provision of a general environment which will integrate diverse social groupings.

Another means of achieving this goal is through the spatial relationships among the residential sectors planned within the neighbourhoods. In this regard, it is intended that sectors accommodating large enough numbers of different socio-economic groups are developed so that there is no sense of isolation for families in such groups, and on the other hand that the number is not of the proportion which identifies the group by any social distinction. An example of such planning is the incorporation of housing within neighbourhoods in residential clusters of appropriate size.

The role that physical facilities should play is in providing a common meeting ground for the various population groups, thereby fostering social interaction among them. In order for the facilities to perform in this manner, however, they must be needed and useful to a broad cross-section of the residents; otherwise they could well be taken over by one or other of the groups.

It is indicated that the land requirement for facilities is quite small and, therefore, no specific allocation for them is made at this point. Further, it is expected that a number of these facilities will be integrated within the local school complex or on the neighbourhood park site. More intensive studies will be made to determine the extent and mix of services that will be required, and subsequently negotiations will be undertaken to determine how they may best be incorporated within the individual areas. These efforts will, no doubt, prove to be complex and time-consuming because of the number of potential participants who would share in or provide facilities and programmes. These may include the local Board of Education, the Recreation and Parks Department, social welfare and public health agencies, such other groups as the churches, and the developers themselves.

The type of physical facilities which are considered necessary at this point in time are as follows:

- 1) Day-care centre and nursery school;
- 2) Space for visiting social and health agencies;
- 3) Public meeting rooms;
- 4) Hobby and workshop space;
- 5) Tuck shop-coffee bar outlet;
- 6) Outdoor swimming and wading pool;
- 7) Outdoor skating rink;
- 8) Tot lots and other specialized play areas.

Virtually all of these facilities can be accommodated within the junior public schools and on the local park sites. These may be arranged as adjuncts to the school or park as special additions, or as uses utilizing space within them. Also, certain of the facilities are normally the responsibility of the Recreation and Parks Department of the Borough. However, it would be difficult for the municipality to provide these as the neighbourhoods develop because of its capital budget limitations on the availability of funds. The concern here is that a reasonable level of these facilities be available at an early stage of development in each neighbourhood.

The amenities listed above will perform a wide range of functions, but each has, at least in part, a social purpose. For example, the day care centre and nursery school constitutes a common meeting ground for young parents of all backgrounds. At the same time they permit mothers the freedom to work or engage in other activities. This arrangement should assist in the intermingling of various groups. Local recreational facilities catering to various age groups are another form of meeting place. If they exist on a reasonably high level they will encourage intensive use and, it is believed, be a major factor in attracting and retaining families with a higher-than-average socio-economic background.

8.2.2 Community and District Facilities

These levels of social services are considered together because, to a large degree, the logical locations for such services are in and around the Central Area of Malvern, and also because there is a certain degree of interchangeability in their arrangement. There is often only a narrow gap between the community and district social services as opposed to the rather clear distinction between these and neighbourhood functions. Furthermore, there is strong justification in concentrating such social activities within the Central Area. As planned, such an approach will engender the continuous liveliness necessary for the functional success of the central facilities, and aid in the development of a strong Central Area image. This will enable Malvern residents to identify with the Central Area which will serve to generate a community spirit.

The kinds of facilities deemed appropriate for inclusion at these levels are as follows:

- 1) Public Library;
- 2) Youth Centre;
- 3) Adult Education Facilities;
- 4) Medical Clinic;
- 5) Physical Fitness Centre;
- 6) Club Rooms;
- 7) Specialized Recreation Facilities.

Again, it is indicated that the installation and operation of these facilities will come about as the result of the efforts of a wide range of public and private agencies. However provided and managed, it is believed that these social services are necessary to meet the goals for the Malvern community. The success of the final result will depend on the efforts of the various levels of government, the interested public and private organizations, the developers, and the residents all working together.

8.2.3 Neighbourhood Association

Of considerable importance in assessing the functioning potential of the projected social facilities is the role which the residents within the community may perform in the establishment and operation of such facilities. It will be appreciated that the successful implementation of services is highly dependent on the closeness of such services to the everyday activities of the local residents. Because of this prospective relationship, it is timely to examine the potential value to the Malvern project of a "neighbourhood association" arrangement whereby the residents may become intimately involved in the handling of the facilities.

A neighbourhood association, when its energies are concentrated on matters of immediate social concern to a majority of its members, can be a significant force for the improvement of its area. Suitably established, such an association can:

- 1) Provide higher levels of neighbourhood amenity than are normally provided and at the lowest cost to each resident,
- 2) Maintain these levels of amenity over the longest duration in time,
- 3) Sustain property values over long time intervals, and consequently ensure high levels of municipal revenue,
- 4) Promote individual responsibility and participation in local affairs,
- 5) Promote stable neighbourhoods and aid the social integration of its resident members.

It is strongly recommended that a high priority of consideration be given to the establishment of such an arrangement in the development of the Malvern community. Of particular significance in the project is an automatic-membership association which requires membership by residents when they move into the area. Other forms of association in which membership is optional are not recommended since participation and donations become difficult to ensure, thereby making the association relatively ineffectual and eventually leading to its break-up.

Most commonly, homes associations in the past have been responsible for the development of recreation areas, swimming pools, landscaping areas, walkways, common rooms and gymnasiums. However, this does not infer that their operations cannot be extended to other features within the neighbourhoods. A crucial factor in the success of any association is that those responsible for the development of any area must create the association before the first resident moves in. The developer must also ensure that each resident understands the purpose of the association as well as the rights and duties attached to membership in it. Further, the developer must take an active part in operating the association until it is well established, at which time his ties with it could be severed. In return for this extra effort, the future marketability of the project should be greatly enhanced.

In order to create a community which is both economically and socially viable, the establishment of such an association in the first stage of Malvern is strongly recommended.

8.3 Medical and Welfare Facilities

It is proposed that community medical facilities be located in the Malvern shopping centre, in the form of a clinic, separate medical offices, or equivalent facilities. The major community-oriented welfare services are also proposed to be located in the Malvern Central Area. However, neighbourhood level services including family counselling and other social welfare activities, will be located, it is proposed, within the neighbourhood school-park complex. Such a proximate location of social service facilities to recipients of these services will help to create a more

productive relationship between the two and thereby assist in decreasing the gap between the social service and the individual.

8.4 Libraries

The major community library is proposed to be located in the Malvern Central Area. Consideration may be given to additional library services which might include a mobile library which would visit each neighbourhood on a scheduled rotational basis. Such a facility would bring the smaller children into direct contact with an arm of the main library and could as well contain educational displays which would be frequently changed.

8.5 Churches

Discussions with church authorities have led to the establishment of sites of varying types and sizes for church denominations wishing to establish in the Malvern community. The major facility projected is a "church campus" which, it is proposed, would be located adjacent to the District Shopping Centre. It is contemplated that three or four of the major Protestant denominations will combine their efforts at this point, and that by doing so they will be able, to not only reduce capital costs, but would in addition provide a greater range of communal services such as day-care amenities, "drop-in" services and general counselling to their congregations and to the area as a whole.

In addition, it is anticipated that another eight sites will prove appropriate for other church groups. In certain instances, these may be used by two groups wishing to share common site facilities. The Roman Catholic Church has indicated a need for two and possibly three sites in the community, and these will likely be located close to the separate school sites.

The remaining sites are expected to be acquired by other Protestant denominations or by the Jewish faith. Because some of these sites would serve an area much larger than the Malvern community itself, they have been located on arterial roadways so as to be accessible by car from other districts.

9. Engineering Services and Utilities

8.6 Municipal Facilities

Municipal facilities planned for the community include such services as a police station, public library, fire hall and substations for utilities. The last-mentioned sites are projected in a number of locations throughout the project; the first three are to be located within or adjacent to the Central Area. The future locations of these facilities are subject to further detailed studies and subsequent approval by the municipal authorities.

General

For the development of the Malvern Community within the Borough, a wide range of services and utilities must be installed and connected to trunk facilities. This range includes sewers, watermains, electric and telephone services, gas mains and other servicing installations. For development purposes Malvern has been considered as being in two sections, divided generally on a north-south axis by the route of the new Neilsons Road alignment. The major reason for this is the location of a watershed line which roughly parallels Neilsons Road. For the purposes of storm and sanitary sewerage, the westerly section drains into the Malvern Branch of the Highland Creek, while the easterly section drains into the valley of the Rouge River. The watershed divides the community approximately in half.

9.1 Sewage Disposal

Sanitary Sewerage

A Metropolitan Toronto trunk sanitary sewer has been constructed in the valley of the Malvern Branch of the Highland Creek to a point some seven hundred feet south of Sheppard Avenue. This main is adequate to handle any sewage which would flow from the first stages of development in the community, which would include Neighbourhoods 8, 7 and 11, part of the Central Area, and the Neilson Industrial District located between Markham Road and Neilsons Road. Subsequent development in Malvern West will require that this trunk sewer be further extended to the north of Sheppard Avenue. It is understood that the Metro Works Department will be calling tenders for such an extension in the near future. Sub-trunk sewers of suitable size and capacity, and in appropriate locations, will pick up the sewage from local mains and direct it toward the main trunk sewer.

For the purpose of serving Malvern East, a sanitary trunk sewer is planned for construction in a northerly direction along Meadowvale Road to Sheppard Avenue, west along Sheppard Avenue to the Rouge River Valley, and then north-westerly through the valley. Subtrunk sewers connecting into the valley will link the local sewer systems within the neighbourhoods to the trunk sewer system.

Storm Sewerage

The storm trunk sewer system for Malvern West follows the same general drainage pattern as the trunk sanitary system. However, whereas the sanitary system is a totally piped system, the storm system is planned as a combination of piping, and sections of lined open channel improvements to the valley of the Malvern Branch of the Highland Creek. The section of the valley between Highway 401 and Sheppard Avenue has been designated as being under the auspices of the Metropolitan Toronto and Region Conservation Authority as related to its master plan for valley works, while the balance of the valley further north will be handled through the Scarborough Works Department. It is expected that the Conservation Authority will acquire the valley lands so as to control their retention and improvement as areas of recreational use and physical beauty.

Three outfalls from Malvern West are planned to handle the storm drainage from the area. From these points the system will be basically a piped facility, except in certain sections near the outfalls where lined open channels may prove more efficient. The decision here will depend on the minimum gradients permissible, the costs, and the effects on neighbouring lands.

The natural pattern of drainage is also expected to be followed within Malvern East. The storm sewer system on the local streets is to be directed toward sub-trunk sewers running along the arterial roads or through the ravine areas within the neighbourhoods. The sub-trunks will then discharge into the valley of the Rouge River and its tributaries. Again, a certain amount of channel improvement work is foreseen for the Rouge River system in order to handle the storm run-off and to preserve and enhance the valley's natural condition.

9.2 Water Supply

The main source of supply for the westerly section of Malvern is a 48-inch diameter watermain which presently exists along Markham Road and terminates at the Sheppard Avenue intersection. It is the intention of the Metropolitan Toronto Works Department to install a 36-inch watermain

from this point easterly along Sheppard Avenue to provide the main supply to the project. However, the capital budget of the Department does not include funds for the installation during this fiscal year. In order to establish an interim supply it is necessary to construct a sub-trunk main along the route of Neilsons Road connecting from Sheppard Avenue to a point south of Highway 401 where a supply already exists. Feeder mains will then be constructed throughout the community from the supply mains described.

The supply of water to Malvern East will likely be handled through a further extension of the 36-inch main along Sheppard Avenue easterly toward Morningside Avenue. This would involve taking water from one water district to another across the watershed and would be accomplished by erecting an elevated storage tank near the easterly boundary of the community and installing appropriate valving into the system.

9.3 Electrical Supply

An appropriate source of electric power already serves the Malvern area. A transformer station of the Ontario Hydro-Electric Power Commission exists at a point one mile east of the community. Also, a 27.6 KV transmission line has been built along Sheppard Avenue and is available for servicing the project.

It has been indicated by the Scarborough Public Utilities Commission that no significant problems are envisaged in bringing hydro-electric service to the first stages of Malvern. Suitable transformer stations will be arranged with the Commission as required. The primary distribution will be at either 13.8 or 27.6 KV and the lines will be located for the most part along the arterial roads, probably by means of buried cable.

In accordance with the Commission's policy, the distribution of secondary power within the neighbourhoods will be handled by buried cable within the street allowances and these will connect with underground vaults. Arrangements for the construction of an underground hydro-electric system for the project are presently being discussed with the Commission.

As an adjunct to this system, plans are being drawn up for the installation of appropriate street lighting. The lighting will be arranged throughout the total street network and along pedestrian walkways. Along the streets, the lights are planned to be mounted on spun-concrete poles, while metal standards will probably be used for the walkway system. Luminaires of suitable intensity are to be designed according to lighting requirements at the various locations. The scale and design of lighting fixtures will be the subject of further detailed studies.

a regulator station is to be built by Consumers' Gas on a site just south of the Canadian Pacific Railway line and adjacent to Neilsons Road.

The proposed distribution system for gas supply to the Malvern community will be located in the main roadways network. This will allow for the servicing of the various uses within the project area at an early stage of development.

9.4 Telephone Service

The future telephone system serving the Malvern area will be accommodated through a new exchange to be installed at Bellamy Road and Lawrence Avenue. This exchange will provide a 430 - number system for the area. During the early stages of the project the telephones will utilize the Atlantic exchange which is operated through an office in the West Hill section of the Borough. At present services are handled by means of an overhead cable arrangement. However, there will ultimately be an underground system built throughout the community. This will entail the extension of buried conduit, which presently terminates at Markham Road and Ellesmere Road, northerly to Sheppard Avenue and then easterly into the project.

It is also anticipated that cable television facilities will be installed underground along with the telephone lines within the local street system of the neighbourhoods. This will aid in eliminating the unsightly TV aerial confusion so common in residential developments today. These facilities will necessitate the construction of pedestal type vaults to provide services to the residential units.

9.5 Natural Gas Service

One of the major supply mains for natural gas serving the Toronto area exists along the existing Neilsons Road right-of-way within the government holding. This 16-inch main brings natural gas from the western Canada source near Highway 7 southerly to the vicinity of Sheppard Avenue for distribution at suitable pressures. It will be necessary to relocate the main from its existing alignment to a position along the new Neilsons Road allowance. Also,

10. Programming

10.1 Staging of Development

The question of the scheduling of the various sections of the Malvern community is of primary importance, affected as it is by a considerable number of factors — availability of services and communal facilities, construction programmes of government authorities, marketing aspects, financial limitations, etc. It has been stated earlier that the westerly section of Malvern is the logical starting point for development action, and even here the programme is influenced to some degree by the fact that a sizeable acreage of this section includes land in private ownership and outside the control of the Federal-Provincial partnership.

Development of the easterly section is precluded at this time by the lack of trunk services to accommodate it. It has been estimated that these services — trunk sanitary sewers and watermain — will be available in about three or four years time. The natural programme then is to press the development of the westerly section so as to coincide as much as possible with the timing for trunk servicing to the east.

Plate 9, indicates a general development scheduling programme for the Malvern holding, and is meant to show a sequence of development rather than a detailed timing process. In some instances a range of years is contemplated because the work will be done in sub-stages, with certain sections, particularly in the Central Area, being constructed and additions made at later dates.

Stage I

The first stage of development in the project will basically take place in the area of Neighbourhood 8 as shown on the Master Plan. This neighbourhood will eventually comprise a full range of residential construction from single-family detached houses to high-rise apartment buildings, along with a junior public school, a junior separate school, the neighbourhood park, the walkway system and certain communal amenities.

The initial servicing for this stage is expected to start in the fall of 1970, thereby allowing the first housing construction to proceed in 1971. It is further expected that single-family detached housing will be started first in

Plate 9

STAGING PLAN



Development Stage

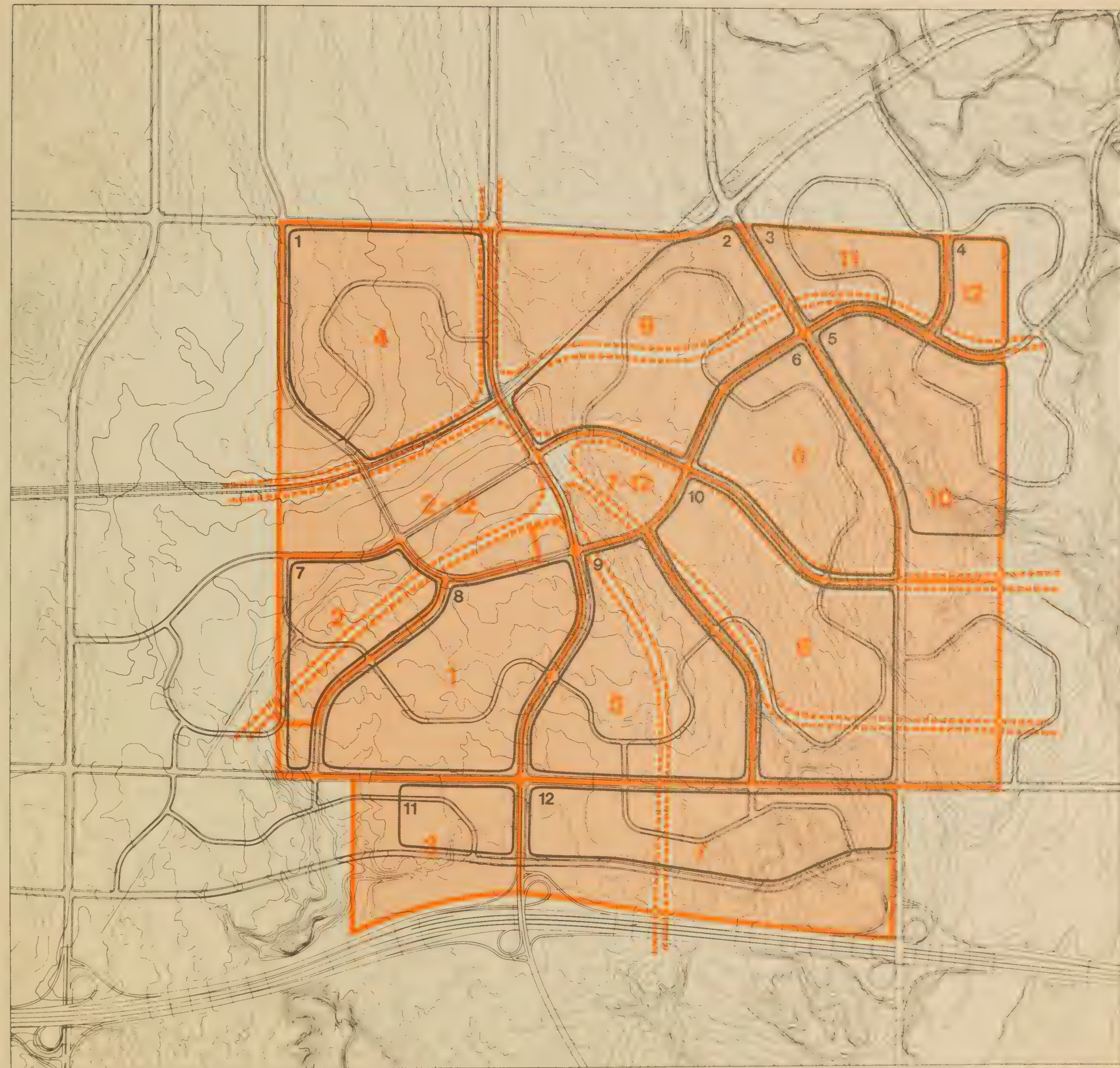


Servicing Area



Neighbourhood





the southerly part of this neighbourhood with the denser forms of residential construction being subsequently built on a phased programme.

Stage II

The extension of sub-trunk sewer and watermain facilities into the general area will make such services available for a considerable area of land outside the Neighbourhood 8 limits. This will include the southerly portion of the District Shopping Centre along with parts of Neighbourhoods 7 and 11 and the Neilson Industrial District situated east of the Highland Creek valley.

Concurrently with the ongoing work on the residential development in Neighbourhood 8, it is planned that the following year will see the start of local servicing for those parts of Neighbourhood 7 and the Neilson Industrial District which are owned by the Federal-Provincial partnership. This will be followed up by the initiation of building activity in these two areas. At the same time as this occurs, it is anticipated that the first phase of the District Shopping Centre will begin construction in order to provide basic retail facilities for those persons already resident in the first housing areas. This Stage may also see a start on the church campus situated adjacent to the District Centre.

Stage III

Stage III will be one of consolidation of those areas which were started previously, along with the servicing and initial housing construction work in Neighbourhood 11 to the south of Sheppard Avenue. This stage should see the substantial completion of residential construction in Neighbourhood 8, continuing work on housing in Neighbourhood 7, and further industrial construction in the District south of Milner Avenue.

Also contemplated for development in this stage are additional educational and recreational facilities. This would include construction activity on the Senior-Secondary Public School campus in Neighbourhood 7, and commencement of the associated Community Park. It is also expected that construction activity in the private lands to the west of the government holding will have started by this time. This would involve work on additional neighbourhood school and park facilities in these areas.

Stage IV

The next stage is planned for the opening up of Neighbourhood 1 to the north of the Canadian Pacific Railways line for construction activity. A considerable amount of servicing work is foreseen here in the extension of roadways to the north, bridges across the C.P.R. line and the building of sub-trunk extensions for the various services required. When available, these services will allow for the progressive development of the lands west of Neilsons Road and south of Finch Avenue. Also implied here are starts on the local school and park facilities, along with work on the small industrial acreage bordering Tapscott Road. Construction work on the residential areas of Neighbourhood 1 and the institutional and commercial facilities are expected to take place over at least two years. At this same time the first efforts in the development of senior citizens' housing should take place.

Malvern East

The foregoing activity will take the development of Malvern West to its serviceable limits. The staging of development for Malvern East depends largely on the availability of trunk services to be built under the auspices of Metropolitan Toronto. Assuming that these services are available, it will be possible to continue a rational programme of development for the balance of the lands within the Malvern Community.

In order to take advantage of services already built, it is contemplated that the first section of Malvern East to start will be Neighbourhood 9. Development would then follow into Neighbourhood 10 and 12. Construction work could subsequently commence in adjacent neighbourhoods. The sequence projected for such construction would be Neighbourhood 6, 2, 5, 4 and 3.

Development of the major facilities in the Central Area will occur in response to the demand of the growing population. These facilities will include additional phases of the District Shopping Centre, the District Park, the Transportation Node, Senior Citizens' housing and additional recreational and institutional facilities. Other major uses, such as industrial parks and institutional areas will also be developed during these stages.

11. Summation

This report represents the starting point for the development of Malvern into its future form. The proposed Master Plan provides the framework for the implementation of a programme which, it is confidently expected, will see the transformation of the Malvern lands into the type of community which will serve as a model for the future.

The Plan, while establishing a point of commencement for the project, also presents a considerable number of guidelines for its successful realization. These guidelines, while not rigid, do imply a number of controls which should be followed in order to create a community which will be pleasant to live in, which will be a source of pride to its residents, and which will be economic and functional in its realization.

A great deal of effort has gone into the development of a plan for Malvern by the owners, the government authorities and the consultants involved. Further efforts involving more detailed design and negotiations will now be needed to follow up this planning in order to produce the project as envisaged. It is trusted that this Master Plan will prove to be the springboard for activity which will realize the hopes and ideals held for Malvern.

